CONFERENCE ON
CONSERVATION OF HIDES AND SKINS

Held in
The Department of Agriculture, Washington, D. C.
April 19, 1926

CONFERENCE ON
CONSERVATION OF HIDES AND SKINS

April 19, 1926.

List of Attendance

Hon. W. M. Jardine, Secretary of Agriculture.
Hon. Herbert Hoover, Secretary of Commerce.
C. A. Browne, Chief, Bureau of Chemistry, Department of Agriculture(presiding)
F. P. Veitch, Leather Investigations, Bureau of Chemistry, Department of Agriculture (Chairman, Interdepartmental Committee on Conservation of Hides and Skins)

Agricultural and Trade Representatives

C. S. Barrett, Farmers' Union, Union City, Ga.
L. L. Little, Southern Cattlemen's Assn., Nokesville, Va.
A. M. Loomis, American Dairy Federation, 630 Louisiana Avenue, Washington, D.C.
Dayton Moses, Texas and Southwestern Cattle Raisers' Assn., Fort Worth, Texas.
Tracy S. McCraken, representing Hon J. B. Kendrick, Senator from Wyoming.
W. R. Ogg, American Farm Bureau Federation, 601 Munsey Bldg., Washington, D.C.
A. W. Reynolds, Eastern Beef Producers' Assn., Newton, Conn.
Norman Draper, Institute of American Meat Packers, Washington, D.C.
Milton R. Katzenberg, Jacob Stern & Sons (hide dealer) 100 Gold St. New York,N.Y.
Michael A. Keane, T. T. Keane Co. (butcher) 619 B St., Washington, D. C.
W. Lee Lewis, Institute of American Meat Packers, Chicago, Ill.
S. H. Livingston (hide dealer) Lancaster, Pa.
S. M. Barnet, Barnet Leather Co., Inc. (tanner) New York, N. Y.
W. H. Beard, W. D. Byron and Sons, Inc. (tanner) Williamsport, Md.
E. A. Brand, Secretary, Tanners' Council of America, Washington, D. C.
J. W. Byron, W. D. Byron and Sons, Inc. (tanner) Williamsport, Md.
Willard Helburn, Helburn-Thompson Co. (tanner) Cambridge, Mass.
E. F. Keirnan, Griess Pfleger Tanning Co., Chicago, Ill.
Frazer M. Moffatt, President, Tanners' Council of America, New York, N. Y.
J. F. Neilly, Endicott Johnson Corp. (tanner and shoe manufacturer), Endicott, N.Y.
J. Dudley Smith, Secretary, National Boot and Show Manufacturers Association, 342 Madison Avenue, New York, N. Y.

Department of Commerce Representatives

W. G. Jamison, Foodstuffs Division, Bureau of Foreign and Domestic Commerce.
W. J. Page, Hide and Leather Division, Bureau of Foreign and Domestic Commerce.
A. B. Butman, Division of Shoe and Leather Manufacture, Bureau of Foreign and Domestic Commerce.

Department of Agriculture Representatives

H. M. Bain, Office of the Secretary.
C. V. Whalin, Division of Livestock, Meats and Wool, Bureau of Agricultural Economics.
J. Clyde Marquis, Director of Economic Information, Bureau of Agricultural Economics
Frank F. George, Division of Information, Bureau of Agricultural Economics.

CONFERENCE ON
CONSERVATION OF HIDES AND SKINS

April 19, 1946.

List of attendance

Hon. J. M. Jenkins, Secretary of Agriculture.
Hon. Herbert Hoover, Secretary of Commerce.
O. A. Browne, Chief, Bureau of Chemistry, Department of Agriculture (presiding)
F. P. Velick, Leather Investigations, Bureau of Chemistry, Department of Agriculture (Chairman, Interdepartmental Committee on Conservation of Hides and Skins)

Agricultural and Trade Representatives

C. C. Barrett, Drovers' Union, Union City, Ga.
L. L. Little, Southern Cattlemen's Assn., Roanoke, Va.
A. M. Dobbin, American Dairy Federation, 830 Louisiana Avenue, Washington, D.C.
Peyton Hobbs, Texas and Southwestern Cattle Raisers' Assn., Fort Worth, Texas.
Percy E. Jackson, representing Hon. L. E. Headick, Senator from Wyoming.
F. R. Gow, American Farm Bureau Federation, 301 Dunway Bldg., Washington, D.C.
A. F. Wyndham, Eastern Beef Producers' Assn., Fenton, Conn.
Jerome Frieger, Institute of American Meat Packers, Washington, D.C.
William F. Hatzenberg, Jacob Stern & Sons (hide dealer) 100 Gold St. New York, N.Y.
Michael A. Kopke, A. J. Kopke Co. (tanner) 612 8 St., Washington, D. C.
F. Lee Lewis, Institute of American Meat Packers, Chicago, Ill.
E. E. Livingston (hide dealer) Lancaster, Pa.
C. M. Barnet, Barnet Leather Co., Inc. (tanner) New York, N. Y.
W. E. Beard, W. E. Byron and Sons, Inc. (tanner) Williamsport, Md.
E. A. Brown, Secretary, Tanners' Council of America, Washington, D. C.
J. T. Byron, W. T. Byron and Sons, Inc. (tanner) Williamsport, Md.
Willard Dickerson, Wilson-Thompson Co. (tanner) Danbridge, Mass.
W. F. Hoffman, Swift & Company Packing Co., Chicago, Ill.
Frank L. Moffett, President, Tanners' Council of America, New York, N. Y.
J. T. Tolliy, Armitage Tanning Corp. (tanner and shoe manufacturer), Medford, N.Y.
Milby Smith, Secretary, National Boot and Shoe Manufacturers Association, 342 Madison Avenue, New York, N. Y.

Department of Commerce Representatives

W. G. Jackson, Foodstuffs Division, Bureau of Foreign and Domestic Commerce.
J. L. Hage, Hide and Leather Division, Bureau of Foreign and Domestic Commerce.
A. E. Brown, Division of Shoe and Leather Manufacture, Bureau of Foreign and Domestic Commerce.

Department of Agriculture Representatives

H. M. Bain, Office of the Secretary.
O. E. Baker, Division of Livestock, Meats and Wool, Bureau of Agricultural Economics.
C. Clyde Marquis, Director of Economic Information, Bureau of Agricultural Economics
Frank A. Boggs, Division of Information, Bureau of Agricultural Economics.

Attendance - (Continued)

M. C. Parker, Division of Information, Bureau of Agricultural Economics.
C. E. Trout, Division of Information, Bureau of Agricultural Economics.
C. D. Lowe, Animal Husbandry Division, Bureau of Animal Industry and Office of Cooperative Extension Work.
George W. Pope, Field Inspection Division, Bureau of Animal Industry.
W. W. Skinner, Assistant Chief, Bureau of Chemistry.
R. W. Frey, Leather Investigations, Bureau of Chemistry
H, P. Holman, Leather Investigations, Bureau of Chemistry
F. C. Bishop, Bureau of Entomology.
A. L. Quaintance, Bureau of Entomology.
J. C. Webb, Bureau of Entomology.

Representatives of the Press.

E. S. Clowes, Associated Press, Washington, D. C.
C. A. Herndon, United States Daily, Washington, D. C.

Attendance - (Continued)

E. O. Parker, Division of Information, Bureau of Agricultural Economics.
O. R. Grant, Division of Information, Bureau of Agricultural Economics.
O. T. Love, Animal Husbandry Division, Bureau of Animal Industry and Office of Cooperative Extension Work.
George A. Hope, Field Inspection Division, Bureau of Animal Industry.
F. W. Chisholm, Assistant Chief, Bureau of Chemistry.
H. A. Frey, Leather Investigations, Bureau of Chemistry.
S. F. Holman, Leather Investigations, Bureau of Chemistry
F. C. Bishop, Bureau of Entomology.
A. L. Quaintance, Bureau of Entomology.
I. C. Webb, Bureau of Entomology.

Representatives of the Press.

H. R. Gibson, Associated Press, Washington, D. C.
O. . Harrison, United States Daily, Washington, D. C.

MORNING SESSION
April 19, 1926

(Note: Conference called by the Secretary, and between the Bureaus of Chemistry, Animal Industry, Entomology, and Agricultural Economics, Department of Agriculture, the Bureau of Foreign and Domestic Commerce, Department of Commerce and various representatives of commercial concerns)

Chairman - Dr. C. A. Browne, Chief, Bureau of Chemistry

Meeting called at 10:15 a.m.

Dr. Browne: We are glad to have such a good representation of those interested in the producing and curing of hides and in the tanning industry in general, and I bid you all welcome this morning. The subjects of the conference are two, the agencies of the Department of Agriculture interested in the production of hides, and those of the Department of Commerce interested in the means of distribution.

It is very fitting to begin the conference with a few opening remarks by the Secretary of Agriculture, and I am happy to have the honor of presenting him.

(Audience rose in honor of and to greet the Secretary)

Dr. Jardine: It seems to be a part of the introduction, in the speaking engagements of the Secretary of Agriculture, for the audience to rise, and thus we go merrily on making trouble.

I am glad to see so generous a response to the call for a conference devoted to the subject of dealing with hindes and their processing, and with the manufacture and distribution of the finished product. The question is of very great concern to the farmers of America, and I may say, of importance to the whole population of the country. We spend about $2,000,000,000 a year in this country for leather goods, half of it being for shoes, and about $150,000,000 for harness. Each of us uses, on the average, about three pairs of shoes a year. We import into the country about half of the hides that we use in the manufacture of shoes and harness and about a third of the vegetable tanning material that is used in connection with the finishing of leather.

The agricultural people of the country are probably more vitally interested than any other group, because they are the producers of the raw product and as well, the largest consumers of any class, considering their shoes, their harness for their horses, etc. They are selling their raw material at a minimum price and at the same time are buying their shoes and their harness back at necessarily top prices. They know that something is wrong; a good many of them, I think, know this. At least, they know that the situation with them, as far as hides are concerned, is not satisfactory, and they have made for years, and in recent years more than ever before, requests of the Department of Agriculture, and of the Department of Commerce, I understand, for assistance in trying to straighten out what they feel, and I think what is generally felt by those working in it, to be an unsatisfactory situation. The tanners, the shoe manufacturers and the dealers in hides and in leather are also of the opinion, if I understand correctly, that improvement can and should be made, and the tanners have been making requests of the Department for assistance along this line; and as a result of the requests, and the demand for closer cooperation to see if something can not be worked out more satisfactorily, this conference has been called. I hope that out of this conference, a cooperative basis for operating can be devised that will enable the producer of raw material to either get back a better price, at least enough better to encourage him to take more pains in skinning his animal and curing his hide than he feels is possible under present circumstances, or at least possible for him to get back better shoes, ones that willwear longer, and harness that will be more durable, and for a better price.

In other words, if we are going to reach our objective, we should put up better finished goods and at a better price, if possible, thus probably encouraging the demand by so doing. We need first of all, more facts and a

better understanding between those engaged in the various phases of the business, the livestock men, the dealers in hides, the finisher of hides into leather, and the utilizer of hides in the manufacture of shoes, harness, etc. The best way to arrive at a satisfactory understanding is, first, by coming together in conference and discussing the question from beginning to end from the various points of view, and I hope that is what you will do today; then maybe we can make some progress in the way of speeding up a plan that will bring to us some of the results we think desirable and believe possible.

I wish that I might be with you a longer time, this morning, but I have a very full day ahead, and am due on the Hill this morning. There are other branches of agriculture that are suffering, and I am supposed to speak on that. Dr. Browne, Chief of our Chemistry Bureau, is familiar with the work we are doing along this line; in fact, most of the Department's institutions are engaged in some phases of the question, and a number of them are here today to present the various points of view entertained by the Department as a whole.

I will ask Dr. Browne to take the Chair and preside at this meeting; but before leaving, I will say that the facilities of the Department are at your disposal. We are keenly interested in this problem, as we are in all questions relating to agriculture. We are always interested in questions that are of concern to all the people of the United States; and this is that kind of a question, and we want to be helpful. Do not fail to utilize our facilities while you are here, and be free to tell us your problems, so that after this conference is over, we will not feel that we shall have come together in vain. I am sorry that I am not able to be with you longer.

I will now turn the conference over to Dr. Browne, who will serve as your Chairman.

(Applause)

Dr. Browne: In taking over the Chairmanship from Dr. Jardine, I know that I voice the sentiment of everyone here in thanking him, this morning. We regret that he is not able to be here longer.

I was informed a little while ago that Secretary Hoover will be here later in the day to speak to us. In the meantime, I think we should listen to some of the letters from those who find they are unable to be here. Dr. Veitch will read these to you.

Dr. Veitch: (Reads letters on following sheets)

C O P Y

G. BERND COMPANY

Hides, Furs
Wax, Wool

Renderers of
Grease and Tallow

Macon, Ga.

April 7, 1926

Hon. W. M. Jardine, Secretary,
Department of Agriculture,
Washington, D. C.

Dear Sir:

We have your favor of the 5th from which we note that a preliminary Meeting to arrange for a later and larger Meeting on the subject of hide improvement will be held on April 19th, in Washington, and that we are invited to participate.

We thank you for this invitation and wish to asure you that we are greatly interested in this work. We will not be able to attend this meeting but we hope to be able to attend the later meeting and to do whatever we can to further the proposition.

Yours truly,
G. BERND COMPANY
L. J. Bernd, President.

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C O P Y
GROSS, KELLY & CO.
Wools, Hides & Pelts

E. Las Vegas, New Mexico
April 9th 1926

Hon. W. M. Jardine, Secy.
Department of Agriculture,
Washington, D. C.

My dear Mr. Secretary:

I have your communication of the 5th., in regard to sending a representative to Washington, for your meeting on the 19th of the present month.

I am very sorry that I can't comply with your wishes at this time, as I have no one whom I could send, that would fill the bill. If I could go myself, I would appreciate the invitation, as I know you are on the right track, and if I can be of any assistance, or information to you in this sedtion of the country, im promoting the improvement of taking care of hides and other skins, I stand ready to do so, and wish you would command me at any time.

With best wishes, I beg to remain,

Yours very truly,

H. W. KELLY

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C O P Y

Geo. E. Keith Company
Campello, Massachusetts

April 8th, 1926.

Hon. W. M. Jardine,
Secretary of Agriculture,
Washington, D. C.

Dear Sir:

Writer is acknowledging your letter of the 5th to our President, Harold C. Keith, with reference to a Hide and Skin Conference April 19th.

Mr. Keith is on the Coast, will not return until mid-May, and so it is that we were compelled to write Mr. McKeon, President of the National Boot and Shoe Manufacturers' Association on April 2nd that Mr. Keith could not accept this committee appointment.

Even so, may we express our gratification that this work is being undertaken. We believe it decidedly worth while.

Yours very truly
GEO. E. KEITH COMPANY
Geo. H. Leach,
Vice President.

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C O P Y
CHARLES FRIEND & CO.
Chicago, Ill.

City Office,
April 10, 1926.

Hon. W. W. Jardine,
Department of Agriculture,
Washington, D. C.

My dear Sir:

Replying to yours of the 5th inst., I regret that I cannot make it possible to attend the preliminary of the major conference to be called for the discussion and formulation for reform measures tending toward the procurement of better hides and skins. I have just returned from an absence of three weeks.

As the Hide Trade has no Association, I am at a loss to send a representative. Mr. Fraser Moffat of the Tanners' Council and myself have had considerable exchange of correspondence on this subject throughout the winter, and I am sure Mr. Moffat will express the views of the Hide Trade, as well as those of the Tanners.

Very truly yours,
L. H. WHILLER
President.

C O P Y

Boston, Mass.
April 13, 1926

Hon. W. M. Jardine, Sec.,
Department of Agriculture,
Washington, D. C.

Dear Sir:

Regret exceedingly that it will be impossible for me to attend the conference in relation to the improvement of the take-off of hides and skins to be held in Washington April 19. I appreciate that it is a very vital subject and a vast sum of money can be saved if the proper program is put into effect.

Very truly yours,

J. F. McElwain

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C O P Y
John Miner
Dealer in - Veal, Beef, Pork, Provisionsand
Live Stock

Hyde Park, Vt.
April 7, 1926

W. M. Jardine, Secretary
Washington, D. C.

Dear Sir:

In reply to your letter of April 5 relative to a meeting on the improvement of the quality of hides and skins. Am sorry that I am unable to attend, but hope you may have a successful meeting. With best wishes, I remain,

Yours very truly

John Miner

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Dr. Browne: Are there any other matters to be discussed at this moment? I presume that all of those present have registered, and if not, that their letters are on the desk.

In continuing the conference, I shall ask that those who speak in the discussions will rise and announce their names. The first subject is the matter of grubs and other insects and their relationship to hides, by Mr. F. C. Bishopp of the Bureau of Entomology.

Mr. Bishopp: Mr. Chairman; Gentlemen: I have been asked to open the discussion because of the fact that I have had several years of experience working toward the repression of this pest. The cattle grub problem is properly an interstate one, for it affects every man, woman and child in the United States. Not only that, but the insect thrives in every State of the Union. I should like to give you a composite picture of the subject, because some of you are perhaps thinking of the damage in the losses to hides and other industries. It is true that the hide people suffer a loss of $50,000,000 a year, and that loss is no doubt one of the most outstanding ones. However, there are many other industries involved, and they are showing active interest in the matter.

I might say that of the five-and-a-half million hides taken off each year, approximately 50 per cent are affected sufficiently to discount them for one cent a pound. This loss is naturally thrown forward on to the ultimate consumer of the hides and leather products, such as the man who purchases leather in various forms, and thrown backward on the producer of cattle. The packer and butcher are naturally very much interested in the grub problem because of the fact that they may be required to take off one or two pounds with each carcass, and in addition, that the value of the carcass will be lowered on account of the unattractive appearance.

The feeder of beef cattle is interested because he may be discounted as much as 75 cents per hundredweight on account of a heavy grub infestation. Furthermore, the progressive feeders of the country are one in holding that the presence of the grubs will materially interfere with the proper putting on of flesh, and that therefore it cuts down the return in cash from the feed put into the animal. Again, the raiser of cattle is seriously affected by the fright of the cattle from heel flies, which drive the cattle into mires and bogs, and this makes the work extremely difficult. Furthermore, you have the deleterious effect of the grubs to the animals, as indicated here (referring to illustrations and graphs) The flies deposit their eggs on the legs of the cattle. When these eggs hatch, they produce maggots which burrow through the skin and work their way up through the tissues of the animal to the abdominal and chest cavities. Here they are to be found on the various organs such as the spleen, intestines, and paunch, and especially along the gullet. They burrow about actively and grow to about two-thirds of an inch in length during the four to six months' period spent within the animal.

In the fall and early winter, they begin to burrow upward, sometimes entering the spinal canal and finally reaching the connective tissues beneath the skinalong the back of the animal. The holes are cut through the skin as soon as the back is reached, and growth proceeds rather rapidly. During this time (35 to 75 days) they keep the holes in the skin continually open and enlarge them as growth proceeds. When mature, the grub drops to the ground and, during the quiescent stage, which lasts from 20 to 60 days, changes into a heel fly. Without partaking of food, the flies mate and begin attacking the cattle.

During this time, you get terrific fright among the cattle. Any of you working with cattle know that it produces wild runs for shade and water,

in order to avoid the flies, when they should be feeding. They get a very acute irritation and a rash which extends down to the udders, and produces sore bags. The cattle become very spiteful during this trouble. A highly developed dairy cow with big milk veins and nervous temperament is a terrible sight, going round and round a field with head thrown back and tail over her back, her eyes swollen, and sometimes she drops from utter exhaustion.

I might explain that there are two distinct species of cattle grub; one, the common species present throughout the United States; the other, the northern, or European warble. The second species is a recent introduction, and is greatly spreading, and it is much more troublesome to the stock. Another point is that this grub begins later in the season than the common grub, and thus extends the period three or four months longer than that of the common grub. Unless something is done in the near future, we anticipate that this will spread over two-thirds of the United States.

The Bureau of Entomology, during the past 7 or 8 years, has been carrying on work and trying for methods of control. This has necessitated tests of several minute organisms for this purpose and removing the grubs in one way or another. In this work, it has been found that the grub is confined largely to the back of the animal, and that the cattle are the only hosts, that these grubs are present during the winter and spring months, and always accessible from the outside.

As to the best methods of control, the most promising at the present consists of destruction of the grubs in the backs of the cattle. Certain ointments can be used, and certain powders and washes have been found effective. I might say that as a result of numerous and very large tests we have had no injurious effects from these. A number of men have asserted that these methods are practicable, even now. Theoretically, it is possible to destroy this pest in one year, but we feel that two or three years are needed for this work.

The Bureau of Entomology feels that the next step is to conduct campaigns to determine the practicability of control and to find the cost of operation and to demonstrate the advantage in reducing, or eliminating the numbers of grubs.

I will read this paper to you, as follows:

STATEMENT REGARDING THE CATTLE GRUB AND ITS CONTROL.

The loss due to the cattle grub has been estimated at from $50,000,000 to $100,000,000 per annum. This loss is sustained by several industries and is felt in the following ways:

1. Dairymen. Marked reduction of milk flow is brought about by the gadding of the cattle and irritation produced by the grubs while they burrow about in the tissues of the animal. The actual loss is difficult to estimate, but reliable dairymen who have kept records of their milk production, state that when the flies are active, the milk flow may fall off from 10 to 25 per cent. This does not take into consideration the irritation due to the parasites when within the animal. The growth of the young stock is retarded and the condition and vitality of all animals are reduced through grub infestation.

2. Cattle raisers and feeders. The condition of beef cattle is reduced and flesh is not put on as the result of running of the animals from heel fly attack and the presence of the grubs in the bodies of the cattle. This annoyance has been shown to cut the weight of beef cattle from one hundred to two hundred pounds per head. The growth and condition of young stock are materially interfered with, and the vitality of the animals lowered. The cattle are kept in a constant state of agitation, or standing in water to avoid the flies when they should be feeding. Bogging down of cattle and stampedes caused by the fright produced by the flies among range cattle, result in a decided loss. Discounts are made in cattle when they are marketed with heavy grub infestation in their backs. This discount ranges from 20 to 75 cents per hundredweight.

3. Packers and butchers. Hides with five or more grub holes are discounted, according to trade custom, one cent per pound. This probably does not cover the actual losses. Hides with less than five holes are certainly lowered in value and many heavily infested hides are practically worthless except for glue stock. Beeves infested with grubs along the back must be trimmed to make them salable. This trimming frequently results in a direct loss of from one to two pounds in heavily infested animals, and the carcasses are rendered unattractive by the trimming.

The presence of young grubs in the gullets or weasands necessitates the examination and trimming of each and some of them are rendered useless for sausage casings.

4. Tanners and leather dealers. The tanning industry as a whole

prefers grub-free hides. For certain uses a single hole in the hide makes it unserviceable. The extra handling of hides necessary in classifying them as to grubbiness is an economic loss. The grubs perforate the skin along the backs of the animals, thus damaging the portion which is of greatest value when the hide is tanned. Although for certain purposes healed grub holes are not considered undesirable, the scar tissue present is objectionable in certain industries and certainly does not improve the quality of any leather. Although some of the grub holes may be obscured by processing, the goods are damaged and the loss must be sustained by the ultimate consumer.

## Life History and Habits of the Cattle Grub

There are two distinct species of cattle grubs in the United States. One of these has been present for many years and is to be found in practically all parts of the United States, with the exception of the Red River Valley of the North and a few other more or less restricted districts. The northern cattle grub, which has been called the European warble, was first discovered in this country in 1905. This species is widely scattered in the Northeastern States, and occurs here and there through the Northern States west to the Pacific. This form is undoubtedly spreading, and it seems certain that in time it will be present throughout the northern half or two-thirds of the United States. The fly of this species is much more annoying to cattle than that of the common grub, and when both species are present, the hides will not only be much more heavily infested, but the season of grubbiness will be lengthened.

The life history of the common species may be briefly summarized as follows: The flies appear on the first warm days of spring and deposit their eggs on the hairs of the cattle, principally on the legs. The minute spiny maggots hatch in three to four days, burrow through the skin, and work their way up through the tissues of the animal to the abdominal and chest cavities. Here they are to be found on the various organs such as the spleen, intestines, and paunch and especially along the gullet. They burrow about actively and grow to about two-thirds of an inch in length during the four to six months' period spent within the animal. In the fall or early winter, they begin to burrow upward, sometimes entering the spinal canal and finally reaching the connective tissues beneath the skin along the back of the animal. The holes are cut through the skin as soon as the back is reached, and growth proceeds rather rapidly. The grubs become mature from thirty-five to seventy-eight days after reaching the back. During this time, they keep the holes in the skin continually open and enlarge them as growth proceeds. When mature, the grub drops to the ground and during the quiescent stage, which lasts from twenty to sixty days, changes into a heel fly. Without partaking of food, the flies mate and begin attacking the cattle.

It will be seen that the life cycle requires approximately one year, about 10 months of which are spent in the grub, or larval stage, within the bodies of the cattle.

## Method of Combating Cattle Grubs

For many years, interest in these pests has been shown by entomologists, veterinarians and stock raisers, but in the United States, practically nothing has been done looking toward the reduction of the losses caused by them.

During the past seven or eight years, the Bureau of Entomology has been carrying on experimental work with a view of devising some practical means of repression or eradication. This work has involved many series of experiments to determine with certainty the various steps in the life cycle of the insect and to discover, if possible, the place where the cycle could be most easily broken.

The most promising control measures at the present time consist of the destruction of the grubs in the backs of the cattle. Since both of the species develop in cattle only, and since all the grubs come to a definite place on the animals and during a fairly defined season, and furthermore, since during this period of development in the backs of the cattle the grubs are accessible from the outside, it seems logical to expect a high degree of control by systematic treatment of the backs of the animals.

In the experimental work, hundreds of different chemicals and other materials, and also various devices for the mechanical destruction or extraction of the grubs have been tried. For dairy and farm animals, the old-fashioned method of squeezing the grubs out is not entirely impractical. The best of the chemical treatments consist in applying destructive ointments, washes, or powders to the backs of the infested animals.

Since the minimum period of development of the grubs after they reach the back is 35 days, and since the young grubs continue to come up from the inside of the animal for several months, it is necessary to administer several treatments at intervals slightly shorter than 35 days, in order to prevent the escape of any of them.

A number of the practical dairymen and raisers of beef cattle assert that the methods so far worked out are feasible for application to their conditions.

Theoretically, it is possible to destroy this pest completely by treating every animal three or four times during the late winter and early spring months by one of the methods mentioned above. In practice, however, it is probable that some of the insects will escape and require that the work be kept up over a period of about three years.

## Experimental Demonstrations of Grub Control

The Bureau of Entomology feels that the next step to be taken in fighting the cattle grub is to conduct campaigns against the insect over an area of considerable size, to determine the practicability of methods of control thus far developed as well as to gain information on the cost of operation and to demonstrate the advantage in reducing or eliminating the numbers of grubs. It is thought that it will probably be necessary to attempt work on an area approximately the size of a county and to use cattle numbering from 50,000 to 75,000 head.

It is confidently believed that the results of such an undertaking would be so striking as to demonstrate the feasibility of extending the work of control or eradication to a larger reea and perhaps to the entire country.

A few cooperative control undertakings are now under way, but the Bureau of Entomology does not feel that the greatest good can come of the work untila thorough-going test is put on as described above.

It should be borne in mind that in fighting the cattle grub, immediate benefits would accrue and no loss would be sustained by stockowners as has occurred in the case of other eradicative projects now under way.

Other Experimental Work

Further experimental work is needed to determine the effect of climatic factors on grubs which drop out of cattle during winter in northern climates. It is possible that the cost of treatment might be greatly reduced by omitting the first two treatments, provided the cold kills most of the grubs.

Additional information of an exact nature is needed on the losses caused by these insects by reducing milk flow, retarding growth, and cutting flesh condition.

Further investigations of mechanical methods of extracting grubs seem warranted.

The testing of the other insecticides to be applied by allowing cattle to pass through wade vats, and certain other ideas which will be more applicable to range stock, seem to be warranted.

A further study of parasitic insects which may destroy the pupae of the grubs in pastures is also desirable.

It should be stated that during the conduct of the experimental demonstration of grub eradication, a large amount of valuable scientific as well as purely practical information would be gained which would be of inestimable value as a basis for nation-wide work against this $50,000,000 insect.

Mr. Bishop (continuing): I want to emphasize the fact that this problem of controlling this insect constitutes a problem of science in which many interests are involved. It is not a matter for the hide men or the tanners alon e, but the dairymen, the feeders of beef cattle and various hide and leather people. These must be taking active and consistent part in the fight. I might add that the estimated damage is between $50,000,000 and $100,000,000 a year.

Dr. Browne: Are there any remarks that you wish to make, or any questions?

Mr. Katzenburg: Can you tell me the best of some of these powders that have been used?

Mr. Bishopp: A large number of them have done very well; one of these is iodoform-petrolatum, using one part iodoform and five of petrolatum. Several washes have been very successful, one of them being fine tobacco powder; but the powdered root of the tropical plant known as "Derris", when applied to the backs, that gave 100 per cent cure. Also, carbon tetrachloride has been effective.

Mr. Katzenburg: I asked that because recently, within the past 10 days, we shipped a car of hides and about 10 per cent were returned badly damaged. The tanner noticed a peculiar odor that was foreign to others. Apparently, someone had been trying to kill the grub and had put on some solution that was too strong. These were winter hides, and not all grubby, but about 65 or 70 per cent. I was wondering whether that is being covered by the Department. If some wash is put on that will ruin the hides, that is a waste.

Mr. Bishopp: We have been very careful in that. Those things that I mentioned show no injury whatever. We have followed through a few of them and have had no injury. Should this work go on in a thorough way, the problem will be solved now and forever.

Mr. Reynolds: Do I understand that the iodoform is five parts and the petrolatum is one part?

Mr. Bishopp: No, it is the other way around. It is applied to each grub hole and rubbed in. We thought that would be better thansome of the other things, because the cattlemen are used to that.

Mr. Reynolds: Has anything been done to kill the eggs when put on? Is there anything that can be found effective in that way?

Mr. Bishopp: Those experiments have not been very successful. We have taken a group of dairy cattle and put them through a solution, and we got just as many grubs the following year. The flies are not easy to repel.

Dr. Browne: Are there any other remarks or questions?

Mr. Moffat: It may be well to comment on Mr. Bishop's paper. The statements he has made are undoubtedly conservative. In a recent discussion with the head of the United Tanners in Great Britain, they wanted to know what we were doing about the situation. I think Mr. Bishopp has put a great deal of information in that, but he has not yet answered the question as to what the situation is now, and when will the Department of Agriculture be ready to promulgate a statement. Some time ago, we asked that the Department of Agriculture put up something what at that time seemed feasible. What is your program? You have some interesting information; now what?

Mr. Bishopp: I might say, just briefly, that our plan is that the experimental work go on along certain lines, but that we attempt as soon as possible to put on a clear-going campaign, looking toward complete eradication of the grubs from a determined area. We have done very intensive work in one of our areas, in New York, and also in Illinois, and we find that there is very hearty support for the work, but that they cannot carry on the work without financial aid, and the Department has not been able to find the money for this. We feel that the work in this preliminary control should be financed

by the Government, because it is really a basis for National procedure, but it is experimental still. After that work has been carried out, making an effort to eradicate the grubs over certain areas, the work will go on of its own accord, under Government supervision. It extends all over the country.

Mr. Moffat: I am obliged to Mr. Bishopp for his statement. We feel that if there is a wastage going on of $100,000,000 a year, and it has been demonstrated by the scientists that sooner or later there should be opportunity again of making a very plain demonstration, that the waste should be stopped. If not, then let us know that. But, in the presentation of the situation before the interests which I represent, and in the helpful presentation to the men who are responsible for the allocation of these various moneys for distribution, if that is a waste of $100,000,000 and you are ready with a method to stop that, I will offer you such cooperation as you wish.

Dr. Lewis: Mr. Bishopp has offered these facts very forcefully, and I think he stated what the exact situation is, as far as an effort to remove the condition. I am wondering if we could give a third stage and they might suggest what we should do in the meantime. Is there anything we could be doing? In my case, the American Meat Packers are very much interested; we are vitally interested. Of course, it is a matter that concerns such a wide variety of interests, that it does seem logical that the Government should promote, or should start it, at least. In the meantime, is there a specific suggestion as to what we ought to do to help?

Dr. Veitch: I believe that I should say, the Committee which has been handling this matter proposes that there be a number of cooperative committees appointed to handle these subjects and to help work out the details with the Department officials of a program which can have the

general support of all the interests. That will be dealt with somewhat later in the conference, and we want to ask the various interests at that time to work with the Department and prepare a detailed program trying to put that over. In other words, to say just what are the things the Department should do first; and what are the most important things, and cover them all.

Dr. Skinner: Has Mr. Bishopp made any estimate of the cost per animal for this?

Mr. Bishopp: In our experimental work, the cost has been kept track of, and we find that it will run between 5 and 10 cents a head per season. It looks as though it would be very economical. Another point is that in this work, there would be no deleterious effects on the animals, and no losses sustained. In other words, I do not think we felt the opposition that has come up in some of the other enterprises. The farmers and the dairymen would be getting immediate returns, and would therefore throw themselves behind that better.

Dr. Browne: Are there any other remarks or questions on the subject? If not, we will proceed to the second subject, which is on animal diseases, and this will be presented by Dr. Pope, of the Bureau of Animal Industry.

Dr. Pope: I will read my report, Mr. Chairman.

STATEMENT UPON THE RELATION OF ANIMAL DISEASES IN THE UNITED STATES TO THE QUALITY OF HIDES

The Committee on Diseases appointed by Chairman Veitch of the Inter-Departmental Committee on conservation of hides and skins has found the subject assigned to them a somewhat barren one. This is due to the limited number of diseases occurring in this country in which there can be any control with a view to conserving the hides.

The United States is free from serious animal plagues common in

various countries of the world such as foot-and-mouth disease, rinderpest, contagious pleuropneumonia and surra. It is true that at intervals of several years foot-and-mouth disease has been introduced from abroad. Our methods of procedure, however, in the event of an outbreak of this disease do not tend to the conservation of the hides or any other part of the carcass, it being the policy to promptly slaughter all affected and exposed susceptible animals accomplishing as quickly as possible the deep burial or the burning of the entire carcass. In cases of anthrax which occasionally occur in certain well defined areas of the country, it is essential that proper disposal be made of carcasses intact. This likewise holds true of blackleg, a less serious but not uncommon disease of calves. Propagation of these diseases, with danger to human beings in the case of anthrax, would be the natural result of any effort to salvage hides, Furthermore, livestock owners cannot be advised to attempt the removal and salvaging of hides of animals which have died from some undetermined disease. Federal, State and local authorities are dealing with communicable diseases in the most approved manner, and it is doubtful if any plan can be outlined by this Committee which would reduce losses of hides incident to these infections. It would seem that efforts in this respect can best be centered upon those diseases immediately affecting the skin, primarily of which is mange.

There is no evidence that either psoroptic or sarcoptic mange is especially responsible for injury to leather. These are the forms of mange being dealt with under cooperative eradication measures adopted by the Federal and State authorities. It is estimated that during the past fiscal year cattle in herds approximating 205,000 head were involved and of this number not more than about 22,000 cattle were actually infected. During the year 3-1/2 million inspections were made and more than one million dippings were supervised. As a result of these systematic eradication measures, there is a constantly lessening area and percentage of infection.

There is reason to believe, however, that demodectic or follicular mange may be responsible for considerable injury to hides. During the year 1925, one mid-west tanner reported to the Department of Agriculture the results of his observation of mangy kips. These were from 11 of the central and western States. Those found mangy ranged from 4.16 to 35.48 per cent. This form of mange is caused by a mite, Demodex bovis, known as the hair follicle mite. In June 1925, Mr. R. W. Frey of the Bureau of Chemistry presented a paper at the 22nd Annual Meeting of the American Leather Chemists' Association, entitled "Hide and Leather Imperfections Caused by Follicular Mange." We are indebted to Mr. Frey for much of our present knowledge concerning this disease as related to leather injury. The effect of this mange is quite different from that of psoroptic or common cattle scab. It is much more deeply seated around individual hair roots. According to Hutyra and Marek, the mite enters the hide through the orifice of the hair follicle and subsequently reaches the regional sebaceo us glands; the increase of mites, eggs and larvae causes a sac-like dilation and lengthening of the hair follicle and sweat gland. The epithelial layer of the hair follicle and also the hair papillae are caused to atrophy. The irritation causes a dilation of the neighboring

blood vessels as well as increased formation of epidermal cells, whereupon an accumulation of horny masses and even of horny balls may occur and many orifices of the hair follicle are blocked up by them. The inflammatory process in the hair follicles and sweat glands in their neighborhood, lead to the formation of small and in some cases large abscesses, the formation of pustules being due to a secondary infection with staphhylococci. It is apparently an established fact that this form of mange, owing to involvement of the deep structures of the skin, results in serious damage to leather especially in the case of split goods. It is also a condition not easily detected in the living animal or in the fresh hide. This is due to there being an irritated condition of the skin or absence of hair over small areas possible no larger than that occupied by a few hairs. Even in the dehaired condition, the presence of this form of mange is not always readily detected, the imperffections becoming perceptible only in the later stages of tanning.

Mr. Frey's aforementioned paper on follicular mange, which appeared in the Journal of the American Leather Chemists' Association for August, 1925, showed a photomicrograph of part of the contents of an unbroken pustule on a recently submitted sample of cowhide. The hide had been limed, dehaired, and delimed in boro-phenol solution and still the forms of three of these mites are clearly shown in the magnified picture. This may indicate a high degree of resistance to destruction of these mites. In fact, it is believed by some authorities that while progress of this form of mange may be delayed by regular dipping, it is to be considered as practically incurable. Little, however, is known as to the practical treatment of follicular mange in cattle. Some preliminary investigations and research undertaken by the Zoological Division of the Bureau of Animal Industry were interrupted as a result of outbreaks of foot-and-mouth disease in California and Texas during the past two years. It is understood that the Bureau of Animal Industry, through the Zoological Division, will now find it possible to again take up this research work to at least a limited extent. Research must necessarily precede plans for field activities with a view to the control or eradication of any disease. It is believed by your Committee that this research work should proceed with a view to obtaining all possible information concerning the ordinary methods of transmission of follicular mange and possible measures for its control or eradication. In the meantime, it will be helpful if some arrangement can be perfected whereby through the tanning industry and the Department of Agriculture the exact areas in the United States in which the disease exists and the percentage of infection in such sections can be nore certainly determined.

(signed) George W. Pope
C. D. Lowe
Committee on Diseases.

Addendum: While the cattle tick is carrier of the organism which is the causative agent of Texas, tick or splenetic fever, a destructive disease of cattle, tick infestation in itself is not a disease. Consequently, no mention has been made in this report of the cattle tick as a factor in the injury to hides. The tick has been the occasion of a large but undetermined amount of damage to hides and finished leather, and it is gratifying to refer at this time to the progress which has been made in efforts to eradicate this pest. On July 1, 1906, when systematic tick eradication was undertaken by the Bureau of Animal Industry, there were 975 counties in 15 states under quarantine. On

June 30, 1925, this number of counties had been reduced to 271 and 5 of the 15 States released from quarantine. There is every reason to believe that it will be merely a matter of time before this pest is entirely eradicated from the United States and thus eliminated as a cause of damaged hides.

G. W. P.

Dr. Pope (continuing): Mention might be here made of injury due to the cattle tick, this insect being carrier of the causative agent of a serious disease of cattle.

You will find on the board, a few photographs descriptive of cattle infestation and the condition of hides which have been badly infected and from which leather has been manufactured. - The red map indicates the tick-infested area under quarantine a few years ago. This area is being gradually reduced. Georgia is today free from ticks. The State of North Carolina has been removed from quarantine, and the work is progressing all along under State laws in cooperation with the Department of Agriculture. Eradication work is proceeding in Texas, and I may say that accomplishments have not been entirely without opposition from those in the localities affected. Some of our men have been shot, or otherwise killed in the performance of their duty.

Dr. Browne: Are there any other questions? If not, then we will discuss brands and other physical defects. This will be discussed by Dr. Lowe, of the Bureau of Animal Industry,

Dr. Lowe: This report was prepared by Mr. Jamieson, who was Chairman of the Subcommittee on this subject, and I did not know until Saturday that I would be expected to present it. (Reads as follows:)

INTER-DEPARTMENTAL COMMITTEE ON
CONSERVATION OF HIDES AND SKINS

Subject: Scratches and cuts, bruises and brands on hides and their effect on quality of leather.

The raising of cattle under range conditions in the United States and the handling of these cattle under the apparently necessary method of marketing make the elimination of scratches, cuts, bruises and brands almost an impossibility, but much can be done towards diminishing these hide scars.

Most of the cattle of the United States are raised at the present time by ranchmen who run herds comparatively small in number and under restricted range conditions. The open range conditions of former times, free from fences and other confining conditions, are passed, which forces the handling of these animals within barbed wire fence pastures and necessitates the moving of the herds from pasture or from winter pasture and winter feeding to range, that may or may not be fenced, in the spring and back to the winter conditions in the fall of the year. The range that is now used is the rough land and is generally more or less covered with timber and brush, Those conditions make it impossible to avoid more or less scratching, cutting or bruising the animals when they are handled and moved as much as they are.

Each year when the cattle are turned out to summer pasture, the cows with calves are corraled and the calves are branded, castrated and most of them dehorned. Again in the fall, when brought in from the summer range, they are handled through the corrals again and the overlooked or summer-born calves go through the same processes as the spring calves did. In handling the calves, they are sometimes put through a branding chute that holds them tightly clamped while the necessary operations are performed, or the calved may be roped, dragged to the branding fire and held until the operations are completed. None of these drivings or handlings are gentle, as the time element is the controlling factor. When moving cattle, the ranchman does not have time to keep the animals from getting against the wire fence nor when the cattle are being worked over in the corrals does he have time to be gentle in the handling. The ranch owner would welcome any suggestions that would help eliminate any abuses that result in damaged hides on the animals, but when time is measured by the value he receives, directly, or indirectly, for the hide he fails to see where he is compensated. Any abuse that damages a hide on a live animal indirectly causes a loss in the animal, but this loss is small when supplied to each animal and in most cases is recovered to a more or less extent. As for instance, when an animal is cut with barbed wire, there is more or less loss from bleeding which retards the animal's growth or fattening for a period, but when the wound is healed, the animal recovers and the loss to the individual animal is small.

In the marketing movement of cattle, with the handling in stockyards, on cars, and in feed pens, there is perhaps a field for improvement of the abuses that have been enumerated. It is in this stage of the livestock movement where cuts and bruises have the most serious effect. A cut or lump on an animal caused by rough handling in stockyards or on cars lessens the market value of the animal as buyers are on the lookout for conditions that will permit lowering of bids. Work has, and is being done by cattle associations, livestock shipping associations, the railroad companies, and others, to lessen the causes of loss from cuts, bruises, abrasions, etc. The effect of bruises on hides has not been given consideration by the shippers or handling associations, but the bruise effect on the meat is given much consideration.

Rough handling that will cause hide damage in the feed pens is a subject that most cattle feeders give consideration. Not the effect that this rough handling has on the hide, but any cuts, bruises or abrasions that will damage a hide causes loss in feeding and this loss has to be recovered at the expense of extra feed. Again, when fat cattle are shipped to the killing pens, anything that will cause hide damage lessens the market value of the animal. As in the case of the producer, the marketing handler and the feeder of cattle are not interested in the effect of the enumerated abuses on the hide but is interested in the effect of the abuses in market value or feed or other cause. Here, as with the producer, no concrete value is given to the hide on the live animal's back and in consequence little or no attention has been given to the effect of the abuses on the hides.

In every case, from the raiser of cattle to the seller of killing cattle, including the market handlers and transportation companies, there is a direct interest to lessen or prevent the abuses enumerated that affect hides, but this interest is not in the saving of the hide but the effect these abuses will have on the animal in its growth, fattening and market value. The livestock producer associations, the livestock shipping associations, stockyard associations, transportation associations, packers, the United States Department of Agriculture (and others) have a direct interest in the elimination of these abuses and should be included in the conference for discussing their elimination.

No attempt has been made to outline remedies to cure the abuses mentioned, as each phase of cattle raising and handling will have to give consideration to these as they apply to the particular phase in which each is interested.

BRANDS: Brands are treated separately from other hide scars in this discussion principally for the reason that other scars are problems of all the cattle industry and marketing agencies while brands concern the producer alone.

Brands, ear marks and wattles are the marks of ownership and identify the cattle to the owner. Also, in cases where loans are secured with cattle as security, the banks and laon companies recognize these marks and brands as identification. Ear marks and wattles have always been used in the United

States in connection with brands and in recent years have been falling into disuse leaving brands alone as means of cattle identification. Ear marks have so narrow a field of use and are so easily changed that it is not possible to use them as a substitute for brands. Wattles also have a narrow field and at the same time mutilate the hide.

Brands, as used in the United States, are burned into the hide with hot irons and the cattlemen insist that these means of identification be large enough and in prominent enough a place, to be able to identify the animal surely and quickly. The change of ownership of branded cattle frequently requires rebranding sometimes as many as two or three times.

Brands are registered by some centralized agency in the various States and a permanent record of the brand registered is kept by this agency. The several State laws indicate which agency has this recording and registration in charge. Some states have a State Livestock Board, others use the Office of the Secretary of State, while others use the county clerks or county commissioners. These, with the individual owners and his livestock associations, are the parties interested in branding and are the ones to be called into a conference on brands in relation to the value of hides and leather.

The livestock grower will be against giving up his present method of positive and quick identification of his cattle for the reasons that, first, the present method is a fixed habit; second, it is a sure and quick method under the conditions which the grower now works and, third, there is no money incentive to give up this method. Relative to this last, no offer of increased value per animal has been made to the grower to remedy his present methods or to substitute other methods. While the grower recognizes the large sums involved when measured in total saving in hides and leather, he measures the value and advantages of his present methods of branding with the possible increased value of the single animal. When measured this way, there is very little incentive for him to change his present methods.

There are ways by which improvements can be made in the present methods that can be brought to the attention of the individual livestock grower through the livestock associations, bankers and cattle-loan associations and the brand authorities of the various states. Brands, in a great number of instances, can be reduced in size. In some cases better locations on the animal can be selected. Rebranding abuses can be improved and attention to "wire" and acid" branding methods of other countries can be brought to the cattleman's attention for his consideration. All this can be helped by a money or higher value return for animals branded in such manner as will increase the value of the hide to the cattle producer.

The cattle industry in the United States is in the intermediate stage between the open range conditions of South American and Australia and the strictly small farm conditions of Europe. The cattleman will not be patient with conditions that might apply to other countries and still are not of practical application here, but unquestionably will give careful consideration to improved methods that will be helpful to him and his industry.

The foregoing is devoted entirely to the beef-cattle industry and does not include hides received from dairy cow sources. Large numbers of dairy cows go to slaughter but generally this movement is to nearby slaughter places. Branding of dairy cows is not widely carried on and where it is, other methods of marking for identification can, in most instances, be substituted.

The rough handling of dairy cows in stock pens, in transit and in stock yards, when they are marketed for slaughter, can be taken care of in the conference under the head of the same abuses as applied to beef cattle. Representatives of the dairy industry should be included in a general conference if one is held.

The number of home slaughtered and fallen hides on ranches are so comparatively small that they are of very little interest to the cattle raiser and of but little more interest to the dairyman. If this subject is brought up at a general conference, it likely will be dismissed with small consideration.

Dr. Lowe (continuing): I have some comments on the brand phase of the subject, submitted by Mr. V. V. Parr, specialist of the Bureau of Animal Industry, and I should like to read them (Reads as follows):

COMMENTS ON BRANDS
by
V. V. Parr

(1) It is practical to advocate brands of smaller size, though that may have its limitations. I noticed a brand last summer .. two slashes along the sides from shoulder to hips - thus ———————— (a la "railroad") That brand practically ruins a side for leather and brands of that class can be safely reduced in size. On the other hand, brands that are too small are hard to read by inspectors - loan, cattlemen's associations and sanitary commission inspectors, especially when the hair is long on cattle. Letter, numerals or other characters three to four inches high, run or stamped plainly so that each portion will peel should be large enough.

(2) I doubt the practicability of advocating reductions in the practice of branding. Even in the farming communities cattle stray and the ownership is established by the brand laws. To my certain knowledge, several very serious disputes would not have occurred had farm cattle been branded. And too, in farm communities there is more or less buying of local cattle. In taking these to shipping point other cattle drop into the drive, and in some cases are not cut out. It is my opinion that cattle stealing is encouraged in some localities because of lack of branding. It is much easier to get away with unbranded rather than branded cattle. (If everyone would brand and local place officers inspected and certified every car shipment from all shipping points there would be less stealing -- and stealing is practised more than the unsuspecting public thinks)

(3) It is practical to advocate location of brands where

cheap leather originates. With few exceptions brands can be read as well at one feasible location as another, if the brand is run right.

(4) Hot iron branding is the most preferable. It makes the impression in the hide, which when held to the light can be read from the fleshy side of the hide. Hide identification is often necessary where cattle have been butchered, within or without the law. Fluids that merely discolor hair, etc., are not reliable and are easily disfigured. From several that I have heard of being tried, none have been satisfactory. To be worth anything, a system of branding must be one that will stand up under all conditions and circumstances.

(5) Smaller irons for calves may be and are used by the majority of real cattlemen. However, an iron must be of sufficient diameter to hold heat when the brand is being run. Many brands do not peel because of too small iron that becomes cold. The size of the brand can be limited rather than the size of the iron.

(6) The best means of getting results from the above is a better price for hides that are less damaged by brands. Make it worth the producer's while and he will respond. Otherwise I do not think very many changes can be accomplished in our present system. There must be an incentive in greater returns.

(7) In many States brand records should be revised. For example, last year I applied for a brand at the county clerk's office. I wanted VA (read V up and down) I could not get it because the brand was issued a party in our county in 1878. I doubt if that brand has been run on a cow in 40 years, yet I could not get that brand. Legislation to cancel all brands not renewed at a time say two years hence would clear many records and make available many good brands not available at present. This condition exists in other States except Texas. Also, present users would have preference to certain brands. I believe this feature could be one of the phases in connection with the publicity that may be given to the production of better hides, and is a worthy phase.

But the salient point is - make them worth more money, and producers will produce better hides.

Dr. Browne: Is there further discussion of this subject?

Dr. Lewis: Mr. Chairman: The American Institute of Meat Packers has a department on waste elimination, and that department is endeavoring to promulgate information of this kind in connection with the abuse of animals in handling them in transit. It might be well to learn what are the estimated losses due to branding.

Dr. Browne: Do you have any figures on the losses from handling? Are there any figures on that, Dr. Veitch?

Dr. Veith: I do not know of any.

Dr. Browne: Are there any other questions? Then, we shall proceed with the skinning phase of this subject, by Mr. R. W. Frey, of the Bureau of Chemistry.

Mr. Frey: I will read this report (See following pages)

INTERDEPARTMENTAL COMMITTEE
ON
CONSERVATION OF HIDES AND SKINS

SUBJECT: Skinning and Curing Cattle Hides and Calfskins

Defects

Skinning.- The value of a hide or skin depends in part upon the skill with which it is removed from the animal. Other things being equal the better flayed hide will invariably bring, in the final transaction at least, the better price. The two most serious defects from poor skinning are cuts and poor pattern. There are other defects but they are far outweighed in economic importance by the two mentioned.

Cuts result from unskilled use of the skinning knife and range from more or less superficial scores on the flesh side to deep gashes that sometimes pass through the hide. The damage to the resulting leather is self evident. For certain classes of leather goods cuts can be allowed for and the value of the leather in the usual commercial trims can be judged by the buyer according to his requirements, so that the whole hide or skin is not a loss. On the other hand, for those products such as transmission belts, heavy straps, bags, cases, and upholstery, requiring maximum strength together with maximum area and length, entire freedom from defects, obviously cuts, is essential. For these purposes a single cut may and often does render the hide worthless. Hence the importance of skill of a highly developed order to insure the operator good chances of removing the entire hide or skin without a slip of the knife.

Poor pattern results from "opening up" cuts made at the wrong location and in the wrong direction, yielding a hide of irregular or

unsymmetrical shape with an improper distribution of butt, belly, shoulder, and shank portions. This is of great importance commercially, particularly for sole and belting leather. The different parts of a hide have different fiber quality and these are commercially separated accordingly into trims such as butts, bends, shoulders, bellies, and heads. Each trim has a different value as leather and about in the order given, starting with the most valuable. Consequently, if the take-off of a hide is such that the proper proportional division of these sections can not be made price discrimination results.

Trim generally is associated with pattern and refers more particularly to clean-cut, even edges as opposed to ragged ones; to the distribution of tag-ends around the flanks; and to the treatment of portions outside of the main body contour such as shanks, ears, and head.

Among other defects of skinning are cut-throat (other than for religious requirements); meat, particularly cheek meat, left on hides; failure to remove tail bone, udder, dewclaws, and horns; failure to split ears; and careless work resulting in a dirty, bloody hide or skin.

Curing.- Cure is likewise an important factor in evaluating hides and skins. Sound, first quality leather can not be made from unsound hides, nor can as much leather be made from such hides, yet it costs just as much to tan them. Poor curing results from indifference, ignorance, and repeated handling as distinct from lack of skill in the case of skinning. The most serious defects are hair-slip; rot; salt, rust, and other stains; poor fiber from repeated freezing and thawing; false weighting; and vermin damage.

## Economic Importance of Defects from Skinning and Curing

It is impossible to obtain at present an authoritative, accurate estimate of the annual money loss in this country from faulty skinning and curing. Expressed on a raw hide value, to say nothing of finished leather values, the sum would be appalling.

It has been stated frequently that the annual loss in Great Britain from faulty skinning alone is about 500,000 pounds sterling, and that for all of Europe it is from 8 to 10 million pounds. Chiefly because of our larger percentage of "packer" kill, our domestic practice is better on the whole than foreign practice. However, foreign practice is probably better than our farm and small butcher kill, which in the aggregate is still voluminous. The accuracy of statements such as the above must necessarily be open to question. They deal only with skinning and would be greatly augmented were they added to losses from curing.

A rough idea of the proportions that money losses may assume in this country may be gained from the following estimates and assumptions. With an estimated annual consumption of about 22,000,000 cattle hides and kipskins, and a net importation of not more than 20 per cent of these, our domestic production figures about 17,500,000. On the basis that two-thirds of our domestic slaughter of these animals is "packer," there is obtained a "country" slaughter of about 6,000,000. Assuming for these, because of the inclusion of cows and kips, an average weight of but 45 pounds per hide gives 270,000,000 pounds. If because of faulty skinning and curing this quantity were graded down on the average three cents a pound, a loss of practically 8,000,000 dollars would be indicated.

Similarly for calfskins, with an average total annual consumption of about 15,000,000 and an importation of one-third of these, our domestic production is about 10,000,000. Of this number probably one-half is "country" slaughter. Assuming an average weight per skin of 10 pounds gives 50,000,000 pounds in this class, which if graded down on an average 4 cents a pound indicates a loss of 2,000,000 dollars.

At present hides from our very largest domestic packing houses are looked upon as "standards." These, however, can be improved as shown by the higher prices brought by the South American "packer" hides, frigorificos, because primarily of superior cure. Assuming, because of cure, an average difference of two cents a pound in favor of the frigorificos, indicates when applied to our domestic "packer" slaughter of about 11,500,000 at an average weight of 55 pounds per hide, a loss of practically 12,500,000 dollars.

The sum of these estimated losses is 22,500,000 dollars, which it is believed is extremely conservative. No allowance has been made for the tremendous quantities fit only for gluestock, which from a leather making standpoint are a complete loss.

We make annually in this country for domestic consumption over 300,000,000 pairs of boots and shoes having a factory value of about 1,000,000,000 dollars. Adding in at least one-half of this amount gives us an annual shoe bill of 1,500,000,000 dollars paid by the people. Better skinning and better curing is bound to result in not only more leather but better leather. If, through this improvement, our shoe bill were reduced but five per cent, an assumption which is not at all unreasonable, a saving of 75,000,000 dollars per year to the people would result.

Regardless of the accuracy of the foregoing estimates they are

helpful in arriving at a fuller appreciation of the economic importance of the subject not only to the producers of the raw material and the manufacturers, but as well to the people who are dependent upon the finished products and who in the end always pay the bill. These estimates indicate possibilities of sufficient consequence to justify the expenditure of large sums of money on constructive work having for its object the improvement of hides and skins.

Distribution of Defective Material

The greatest percentage of defective hides and skins from faulty skinning and curing occurs in the "country" classification. A large share of these hides and skins comes originally from the farmers, ranchmen, and country butchers, men who kill but occasionally and only in small numbers. This group, while contributing in the aggregate a large number of hides and skins, is widely dispersed and totally unorganized and consequently difficult to reach effectively.

Between this source, however, and the large packers, there is an important group including town and city butchers and small abattoirs, which is somewhat organized and not so widely dispersed relatively. Furthermore, the average volume of business by each individual in this group is sufficiently large to aid in the encouragement of personal efforts at improvement. While many of the hides and skins from this group go into "packer" classification, there is no question but that room for improvement both as to flaying and curing exists. On the average they do not compare favorably in these respects with the products of the largest packing establishments. Within this group lies the greatest possibilities of significant and material economic accomplishments.

On the basis of our present knowledge of proper practice in hand skinning the very largest packing establishments leave but little room for improvement. Defects from this operation probably average under 5 per cent of their output. While the cure of hides and skins from these establishments is relatively excellent, improvement on this score can be brought about.

Possible Means of Improvement

Existing Knowledge.- Good practice in skinning and curing has been long established in certain quarters. Radical, overnight developments are not to be expected although it is not meant by this that addition to our knowledge is not possible. Most of the "country" practice and much of the "packer" is not up to the so-called "standards", not because the necessary knowledge does not exist but because, for one reason or another, it has not been applied.

Price Penalties and Premiums.- It must be emphasized and constantly kept foremost in mind that practically nothing can be accomplished in the way of an improved product unless the producer of the hide or skin, especially the immediate producer, such as the farmer or butcher himself, is directly offered a dollars and cents incentive. This is but true to human nature and there is no reason why farmers and others should make an exception in the case of hides and skins. "Flat" buying must go before general improvement can be brought about. It is an economic law that improvement in the quality of hides and skins must reflect itself in better leather and cheaper leather. This fundamental alone, especially when applied to such tremendous quantities and values as are involved by our hide and leather industry, justifies much effort and expense in attempting improvement, but it is too indirect an appeal to the individual, immediate

producer of the raw material to have much weight with him.

Whether the incentive should be in the form of a penalty or a premium is a question. Each, in the final analysis, means the same, but it is believed that a premium system is psychologically better. In either the form of a penalty or a premium, discrimination must be made justly on the basis of quality alone. The practice of hammering down the price of a hide simply because of its "country" origin must be eliminated.

According to Chicago market quotations for the year 1925, "country" hides ranged in price from about 10 to 14 cents per pound. The one to three cents a pound often offered the farmer or butcher does not compare favorably with such prices. These Chicago quotations show that "country" hides bring from 1½ to 3½ cents less a pound than "packer" hides, a difference that must reflect quite accurately the relative value of the two classes because of quality only. Differences in excess of this between the price offered the immediate producer and the "packer" quotations must depend essentially upon factors other than quality. One of these is the necessary collection of "country" hides and skins at a central point for selecting and grading them into marketable tannery lots, which, of course, entails expense. If, however, all of this excess difference is due alone to this cause it clearly shows a disproportionate burden of cost for such intermediate marketing operations that should and must in some way be reduced before material progress will be possible.

In other words it seems reasonable to say that, outside of gluestock material, the difference of from 1½ to 3½ cents per pound between large market quotations for "country" and "packer" hides is an index of relative value depending primarily upon quality, whereas the difference of from 9 to 11 cents a pound between the price offered the immediate producer and

that paid by the tanner is an index of the overhead expenses from intermediate marketing and other factors besides quality.

Educational Work.- With the exception of the very largest packing establishments, a general lack on the part of the producers of existing knowledge and failure to apply the same is the greatest evil; Therefore, education offers the greatest theoretical possibility of bringing about improvement. Having once created an incentive for better production the chances of success by education are greatly enhanced, for then one of the greatest obstacles, indifference, will have been removed.

The possibilities along this line have been clearly demonstrated on a small scale many years ago by Carol S. Page of Vermont. Page conducted an active educational campaign among the producers of "country" hides and skins and traded with them on a selection or quality basis, offering premiums for good workmanship. As a result he improved "country" practice in the territory in which he operated and built up a business noted for the quality of its products, which were disposed of at prices materially in excess of prevailing ones.

Educating is a slow process and work of such nature must be continuous and persistent. Lessons must be hammered in. Occasional efforts will do but little good. The program should be so arranged that the subject will be kept constantly alive without any lapse during which interest may lag and lessons be forgotten. Information must be widely disseminated by literature, posters, exhibits, demonstrations, and pictures. Choice of these means will depend upon circumstances governing the groups into which the producers of hides and skins may be divided.

For the group consisting of the widely dispersed, small killers such as farmers, ranchmen, and country butchers educational means of the

lowest cost must, of necessity, be chosen. Efforts aare thus limited probably to illustrated literature, radio broadcasting, and exhibits at country fairs. Consideration should be given to aaccomplishments possible through including suitably prepared and illustrated subject matter in some of the aagricultural courses given by state colleges and other institutions of learning, particularly those in the more important "country" hide and skin producing regions.

For the intermediate group consisting of town and city butchers, small abattoirs, and small packers, considerable expense for educa tional work is justifiable, and for the time being, efforts should be highly concentrated upon this group. These producers are more nearly organized and consequently can be reached more effectively. Furthermore, in most cases, individual production is great enough to help in the development of a fuller appreciation of the possibilities of personal gain through better production and to justify expenditures for special equipment and facilities. Every possible means of education should be considered for this group including: actual demonstrations at organization meetings and by personal visitations; talks aand motion pictures before group meetings; literature; posters; and exhibits.

The methods and the results accomplished by foreign organizations, notably the Hide, Leather, and Allied Trades Improvement Society of England, should be carefully studied with the idea of setting up in this country something similar, particularly for the two groups just mentioned.

For the third group, consisting of the very largest packing establishments, work of a close cooperative nature, having for its object thorough and large scale experiments for the possible aadvancement of knowledge, should be undertaken. Ofter the products of these establishments can be improved, particularly aas to cure. A justification for this statement is the well-known and generally acknowledged superiority of the South American "packer" hide, over our domestic "packer" products. The difference in the handling of these two is primarily one of cure, the frigorifico being a washed and brined hide as distinct from our unwashed green-salted one. The superior quality and yield from frigorificos has been clearly established by years of practical experience on the part of the tanners. From a leather production standpoint, both as to quality and quantity, the frigorifico process should be adopted at once by our domestic packers. The reasons why this washing and brining process, which is practiced in South America by some of the same packers operating in this country, has not been established by them here should be learned and an effort made to overcome the difficulties, if any, thus brought to light. The frigorifico method of curing has been scientifically studied by the Tanners' Research Laboratory. As a result of this work this institution is now attempting to bring about the adoption of the frigorifico process by our meat packers. This effort should be heartily supported.

Among the first group particularly, improvement as to cure offers more promise than does skinning. With his occasional and but limited "kill", the farmer or country butcher has little opportunity

to develop any skill, regardless of his knowledge. Perfection in skinning depends primarily upon skill, which, in turn, depends upon practice.

On the other hand, curing is primarily a matter of knowledge, little, if any, skill being required. In preparing educational material on curing consideration should be given to the best suited method for each section of the country, bearing in mind climatic conditions, availability of curing agents, and marketing facilities. The relative merits of the several means of curing should be pointed out. The importance of the quality of the salt must be emphasized. In dry curing the danger of sun-burn and center rot should be dwelt upon. Whenever production is sufficient washing and brining should be advocated.

Marketing.- Marketing is properly listed under possible means of improving quality because in many cases poor condition develops in a hide or skin from undue delay and repeated handling before it reaches the final selling agency. Unfortunately green-salting is not an ideal means of preservation, particularly when the hide is repeatedly handled. Marketing as directly and promptly as feasible is, therefore, of importance in delivering at the door of the tannery hides and skins of better quality, especially in the case of those of "country" origin. The practicability of mapping out direct channels of marketing for different sections of the country should be considered.

Mechanical Aids in Skinning.- Since, at present, skinning is almost entirely a matter of hand skill serious attempts should be made

to develop and apply mechanical assistants. Systematic research should be undertaken along this line. Available mechanical appliances should be studied and those considered worthy should be given a thorough, impartial trial.

Here again conditions governing the different groups play a part. Obviously the very small producer can not afford an investment in a special appliance of any great cost and yet he is in greatest need of such. Anything for this group must be simple and inexpensive, confined almost entirely to such appliances as safety hand-knives. Even some of these are of prohibitive cost. An effort should be made to familiarize the producers of this group and of the intermediate group with the best of such available appliances, including demonstrations and actual production trials. The importance of developments along these lines cannot be emphasized too much. There is no reason why education cannot effect marked improvement in so far as cure is concerned but no matter how much knowledge the producer may have skill and practice are necessary for perfect skinning by the usual bare-knife hand operations. It is firmly believed that until suitable mechanical assistants are devised and widely used but little improvement will result in the skinning work of the infrequent and small producers of hides and skins.

More elaborate appliances in the form of electrically driven, mechanical flaying machines have been proposed for large scale production. From various accounts one such machine is becoming firmly established in several foreign countries, particularly in France,

South America, South Africa and Australia are mentioned as countries in which the machine is proving popular. Hides flayed by this machine have have brought from 7 1/2 to 10 per cent premium over corresponding grades flayed by hand. Just what has been done in this country with this and similar machines should be ascertained and the possibility of establishing their use, particularly by city butchers and small packers, should be one of the major projects under skinning. Actual trial and demonstration on a scale of significant proportions should be made.

Actual Demonstration of Possibilities

The results possible through improving the quality of hides and skins will be clearly established only by an intensive campaign. To initially apply such a campaign to our entire domestic hide and skin producing industry probably is out of the question, because of its tremendous scope. It is believed, consequently, that as a start a certain area or section of the country should be definitely mapped out as a field for concentrated efforts. The selected area should be one in which present practice is exceptionally poor, possibly the southeastern section of the United States. If the results from this work are outstanding widespread adoption of recommendations will follow more readily and the final goal probably will be reached sooner than otherwise. It is desired to urge such a method of attack in this case.

Research Work on Fundamental Processes

While much, if not all, of the work outlined may be considered research, provision should also be made for research work of quite a different nature. This work should be highly scientific and should have for its object improvement upon scientific grounds of our existing methods of skinning and curing and development of new methods therefor.

Dr. Browne: The subject is now open for discussion.

Mr. Livingston: I think that the subject of brining, from the experience I have had, is a very dangerous one to bring before the country butchers, for the reason that as matters stand today, the country butcher is very reluctant to use a safe form of salt, and if the matter of brining is taken up, tanners will be confronted with more decomposition. As faras packers are concerned, they realize the importance of preparing their hides. But with the country butchers, I think we will be confronted with greater decomposition.

Dr. Browne: Any other discussion? Are there any question you would like to ask?

Mr. Neilly: I would like to recommend that special consideration be given to shipping. Many improperly cured hides were shipped this fall, and no leather could be made from them. The udders, shanks, etc., should be removed at the time the animal is slaughtered, and not left on the hide, and thus increase the weight on which the tanner has to pay freight. Removal of these will not increase the value of the hides, but the tanner will be quite willing to pay more per unit, and be very happy in this. This will amount to $25 per car, from the various Mississippi Valley shipping points. The present method seems an economic waste, and we think the public should not be taxed with that. We believe a method can be developed whereby the hide could be improved, perhaps thus obtaining a greater value. Usually, the prices nowhere near cover this to the tanner. We also believe that hides should be thoroughly washed before being cured. Instead of the common practice of using green hides, we believe the big packers should cure their hides in the same manner as the frigorificos, which leaves the hide bright and fresh. We are prepared to assist in any way possible to

improve the quality of the hides and skins, to be reflected in better leather and better shoes, and at a very considerable economic saving.

Dr. Browne: Are there any other questions?

Mr. Moffat: The last paper was very comprehensive in its scope, and in asking for a discussion, I would have to review the entire subject. If you will look over the docket here, you have brought out various points in the three or four papers. Mr. Frey discussed practically the whole general situation, economic and physical. I shall reserve what I may wish to say to express the thoughts of the general leather industry of the country. I am very much interested as your Departmental discussions come on, but I hesitate to take up any single point. Mr. Frey has touched upon many subjects which cannot be handled in a very brief discussion, and I want to thank him for the extremely broad-minded way in which he has tackled the job. But although there are other tanners here far more familiar with the details of the subject than I am, I think I should like to approve Mr. Frey's paper on its broad principles, and then that I should like to hear some of the other discussion.

Dr. Browne: Are there any other tanners here who would like to take up discussions on the points discussed by Mr. Frey?

Mr. Katzenberg: I might give you some of the little problems the hide men have been up against. Mr. Frey mentioned the experiment of Carol S. Page, of Vermont. His experiment probably lasted for several generations, and he had a great many discouragements, as we have all had. When I started in business, in 1900, we gathered a great many green calfskins and hides. We started to pay premiums for skins and hides, in our locality, that were free of cuts or scars. We got the butchers interested up to a point where

we were getting pretty good hides and skins, and then we got a down-turn in the hide and skin market, and we ourselves could find no outlet, so we could not buy at the original point, and the green-hide man, because he had no market, would begin to sell; and with any kind of sale, the result was that he got very little money, either. There was no market, so we are back where we started. They became so discouraged, that they were not interested any further, and I am sure everybody connected with the hide business has had that happen. It is a matter of dollats and cents. The butcher feels that he has done right, and that he should have a good price for that. So, there is that psychological effect that you will have to combat.

Mr. Reynolds: I happen to be a farmer, and I ship my hides to Carrol S. Page. We take off a packer hide, except that we cut the throat, which is the best way, under our conditions. Then I cut the head off, and still I got the same price. I would like to know why that is.

Mr. Livingston: I believe I can answer that. The material you shipped to Carrol S. Page was a small quantity, and it necessitated Mr. Page's sorting those hides and going to considerable handling expense. In going to our packer friends, it is possible for the tanners to get what selection they want at practically no expense. When you shipped your hides, how many were there?

Mr. Reynolds: There were 14 of them weighing from 25 to 45 pounds. I cut the heads off.

Mr. Livingston: That necessitated holding the hides until they accumulated a carlot. That was one reason; and the second chance is that the

other hides were different from those from you.

I think that the great trouble with the small butcher is that he expects too much service. For instance, the man who produces 10 or 50 hides a month expects the buyer to come to his place and receive his hides sorted according to the conditions that he lays down, and that incurs considerable expense, and that is the one reason that the butcher cannot get the price that the packer receives. If the hide dealer has to go 50 miles to pick up a few hides, it is impossible for him to pay a top price; he must make a pretty big discount.

Mr. Reynolds: We shipped our hides, and we were willing to pay the freight. We shipped them to Carrol S. Page, of Vermont, good hides, and I cannot see, if I cut the head off and took off all waste, whey we should not get a good price.

Mr. Livingston: I think if you will put your hides alongside of the packers' hides, there will be justification of the price.

Mr. Reynolds: We tried to take off the hides as he wanted it done. My man is an expert skinner.

Mr. Livingston: Perhaps you are unfortunately mixed up with people who do not know how to take off the hides.

Dr. Browne: Are there any other points for discussion?

Mr. Keane: I am in the meat business, and we take off a good many hides. I heard a paper read at Atlantic City, some five or six years ago, which gave the reason why the small packers do not get the price of the large packers. It was the difference in the way the hides were taken off, and cured, and put up. We had 15 to 50 per cent cuts. We had heard of the bonus system being inaugurated, and we took that up with the butchers (we slaughtered about 1500 a week), and we offered them 15 cents a head for each hide

taken off correctly, and docked them $1 for all taken off incorrectly. We finally compromised with 20 cents a head. That bonus runs from $50 to $60 a week. We have been getting top-market prices for our hides. We "picked up" 600 hides and had less than six cuts in the lot. Some of the people here who have ourchased our hides can verify that. We have created a demand for our hides. Occasionally, some of our friends in the country ask us to do this for them, and we take the hide and trim it, and when the tanner comes in, out goes the country hide. He doesn't want that. The country men have not the facilities. Our hides are trimmed, and so on, right on the floor; then they go down in the cellar and are put into salt. That salt isscreened after being used the first time. We have to trim off the claws, etc. and all of the surplus fat. The only objection to our hides is that we leave too much fat on them. Sometimes the butchers try to skin that off and cut the hide. They sometimes try to pasts down cuts, but we inspect the hides, and we find that out. I am always an advocate for any improvements, and I find it best to put out a first-class hide.

Mr. Moffatt: Mr. Chairman, I repeat again that Mr. Frey raised so many points in his discussion that we can not expect an intelligent discussion on all these points. We would have to stay here for a week. What method have you for handling these various things? You are bringing out from the Department of Agriculture such information as you have. What type of discussion do you wish on this?

Dr. Browne: I think any of the technical points that Mr. Frey brought up in his paper could be very well covered in discussion this morning. Dr. Veitch?

Dr. Veitch: Why, it is right difficult to say where the bulk of the discussion ought to come. It was my thought that we present these various

detailed phases such as "covered by grubs, insects, diseases," etc., to bring out the losses and the importance of the individual subjects. Finally, we shall present an outline program which is to be referred to committees that will be appointed and the final program worked out by these various committees. Possibly the most helpful discussion will come as Mr. Moffat suggested, when we get down to the point of having before us a general program on how to tackle the whole problem.

Mr. Keane: Might I add that often when we put in this bonus system, hide pieces got lower and lower, but we kept right at it. Now there has been a good deal of discussion here about hides and cattle. We are in the position of buying hides and cattle, and it is all a question of demand and supply. I never heard in all my experience, and I have been in the business about 35 years and my father before me, - I have never heard any discussion as to grubs in live cattle. The main objection is the manure condition, and that runs very heavy, and if we no not make that difference, the tanner makes it for us when he gets the hide.

Dr. Browne: Are there any other remarks? If not, we will proceed to the next subject, "Classification and Marketing," presented by Mr. Page, of the Division of Hides and Leathers, Department of Commerce.

Mr. Page: This very brief report of the Subcommittee tries to bring out simply one suggestion, which we hope will be later acted upon by a committee who will find the ways and means of carrying out a program of study into this question.

I may say that Saturday, there came to my desk a report from Germany to the effect that the German Government, both in the Ministry of Agriculture and that of Commerce, have called a meeting of all groups interested, from the original producer to the shoe manufacturer, in the production and distribution and utilization of raw stock. I do not know whether they stole

that thunder from our idea or not, but it is a similar line, and that meeting will be carried out in a fortnight.

I will read this report.

Inter-Departmental Committee on

Conservation of Hides and Skins

Subject: Recommendations on Grading and Marketing of Country, Small Butchers, and City Abattoir Hides and Skins.

There are, roughly, three classes of hides and skins produced in this country.

1. National pakcer hides and skins.
2. City butchers' (wholesale and retail) hides and skins
3. Country butchers and farmers' hides and skins.

Those hides produced in class one (National Packer) are generally pretty uniformly conditioned, well flayed, correctly weighed and reliably and uniformly graded and classified. On the other hand, the hides and skins produced at present by classes two and three, leave much room for improvement. The present method of conditioning, flaying and grading of hides and skins produced by the city butchers, and the country butchers and farmers, results in a serious waste due to the lack of an organization which would provide an incentive to the orderly improvement of raw stock originating with these groups of hide and skin producers. The present system in its disorganized state suffers from the following abuses:

1. The lack of a National standard of grading.
2. The lack of an incentive to better grading.
3. The lack of an incentive to better take-off.
4. The lack of a National standard of conditioning, plus the present practice of resalting hides, which in some cases is done simply to increase weight.
5. The practice of misrepresentation of the origin of hides and skins

Probably the most effective way in which any scheme of National scope can be made to function is by the organization of a National hide and skin association which could promulgate rules for the uniform standard of conditioning, weighing, flaying and grading of hides and skins throughout the United States. It is perfectly possible with the proper official support and co-operation, to make such a National organization effective and practical. This would eventually result in lower prices of leather goods to the general public, better prices to cattle producers and better and more uniform raw material to the tanners. It is suggested that the most practical way to approach this problem is to have an official study of the situation made by Government representatives. This investigation should first ascertain the following facts:

1. The ratio of city butchers retail and wholesale kill to the total kill.
2. The ratio of farmer kill to the total kill.
3. The ratio of packer kill to the total kill.
4. The individual kill in cities with populations of 200,000 and over.
5. Investigation of financing, marketing, quality of hides handled and the province realized by the Hide, Leather and Allied Trades Improvement Society of Great Britain.

The object of this study would be to ascertain the cost per hide and the scheme of grading, weighing and marketing, and also the profits accruing to those who perform these duties, namely, the individual companies called "Hide Markets" which are registered with the National British Association.

6. An investigation of the financing and general practices as to grading, weighing, salting, and marketing, employed by the co-operative associations already in existence in this country, and by the firm of Carl S. Page, Hyde Park, Vermont. Also, the study of several plans to be proposed by the committee of the groups, with the advice of the Inter-Departmental Committee, as to improved marketing methods, which will result in economies, conservation, and a fair re-imbursement to the producer.

7. When these facts have been ascertained, it would then seem opportune for these investigators to approach the butchers and tanners personally and get their opinions as to feasibility of co-operation in the establishment of a National hide and skin association, which would put into effect suggested improvements and economies in the grading and marketing of cattlehides and calfskins.

Dr. Browne: You have heard Mr. Page; is there any discussion? This is an important question, and we should like to hear any remarks. If not,-

Mr. Moffat: I have already said too much, but I do not think Mr. page's paper should go without comment. He tackles the economic side, and while there should be certain degree of consideration given to the economic side, I view his program with a good deal of respect, owing to its size. We must not get away from a very simple topic that you have here. The raw material that you are discussing cannot be increased in its volume; it must be conserved. There are various methods to do this, but after it is conserved, you may find you are in bad methods of marketing. The methods of marketing can be improved in various ways. I should take issue with Mr. Page

as to the methods of English hide markets; it is a very sore subject with the British tanning interests, and we have very little to learn from them. I say that, however, with a degree of hesitation and with an entire respect for Mr. Page. I know he may hold the opposite view. The subject of conserving hides and skins is the important topic, and how to get at that. You have listed here an item as to a Department plan, and the tanners and shoe manufacturers represented here are waiting patiently to hear what you have to say. It will probably bring out some distinct criticism, for I know that Mr. Barnet and Mr. Byron are interested in one thing - better skins and better hodes, which in turn would prevent a serious economic waste. Several gentlemen have stated their bad results from small consignments of hides and skins; they may be interesting, but how does that fit into the broad program of conservation of the raw material which they are producing? That is the question we offer for your consideration. I simply state that would be the tanner's attitude. We would like to hear your plans.

Dr. Browne: We are to have an afternoon session, and I thought we would close up the preliminary part following, with Dr. Page and Dr. Lowe, and then adjourn for luncheon until 1:30 or 2:00; and then take up the discussion of the Department's plan, which I assume is to be presented by Dr. Veitch. Then, we are also to have the pleasure of listening to Secretary Hoover, at about 3:15.

Mr. Brand: Mr. Helburn wishes to discuss the paper on statistics, and he wants to know if it will be agreeable to postpone that until this afternoon.

Mr. Page: We are not suggesting anything but a study of the situation. I think we all know that great wastes occur in the marketing and the movement of hides and skins, and probably in the costs. Certain features that have been discussed here naturally hark back to the necessity for economics in marketing, if you are going to give the producers the advantage of his pains in improving his take-off. I realize that the British tanners have not been satisfied with the hide markets, but there are good reasons for that situation. The hide markets in England, however, have been a very profitable venture to all those who have been holding stock in them.

Dr. Browne: Are there any other remarks? Dr. Veitch, how long would it take to present your plan? It might be in order to have Dr. Veitch make a presentation of that plan, and perhaps the discussion could proceed along more definite lines after lunch. I will call on Dr. Veitch to present the Departmental plan, if that meets with your approval. What is the pleasure of the meeting? (all were in favor) We will then have Dr. Veitch's plan right now.

Dr. Veitch: I am a little fearful that the title of this paper arouses too much expectation for a definite, worked-out plan. This whole matter is a question of getting the work organized. There is no clear-cut, final plan. The committees that the Secretary will designate, must work out these things. If we had a plan already worked out, there would be little or no need for this meeting.

OUTLINE PROGRAM ON HIDES AND SKINS

The Department has in mind the appointment of possibly five committees to cooperate with Department representatives in planning both broadly and in detail, a comprehensive program of work, and in securing the cordial support and active cooperation of all the various interests in carrying out such a program.

It is proposed to designate an advisory committee to work with the

Department primarily on the economic aspects of the several technical problems and to enlist the interest and cordial support of the worked out program; also a technical committee on grubs, insects, diseases, and branding; one on skinning and curing; one on classification and marketing and one on statistics.

It should be emphasized at once that little if anything can be accomplished in the improvement of hides and skins unless it is going to pay those immediately involved in the greater care and work that will be required to produce them. The elimination of grubs, ticks, and other insect pests, and the prevention and cure of diseases will pay the farmer and cattlemen well in increased milk production, and growth that will result. The increased returns that should and must come from a grub-free tick-free hide from a healthy animal will be an additional incentive to them. But we need to keep these facts constantly before the people. They cannot be left to take care of themselves.

Any improvement in branding that will occasion less damage to hides must be made worth while to the cattlemen. Branding is as yet a necessary evil which can probably be materially decreased if it will pay the cattlemen to do so. Assuming that the elimination of grubs and other insect pests and of diseases, and the restriction of branding will pay the farmer, then the Department's work will consist very largely in keeping this fact before the people through the press, motion pictures, publications, addresses, and demonstrations. The details of this activity will have to be worked out by the committee designated, in c operation with the Department of Agriculture representatives. We have in mind the elimination of grubs from a selected small area, in order to determine how best this can be done and what the difficulties are going to be. We have in mind also, putting a man or two out to work with the cattlemen on reducing branding damage.

So with skinning and curing of hides, where there are also tremendous losses, more especially in what is known as "country" hides, those hides taken off and cured on the farm, ranch, and by the country and town butchers. Here we deal with the hide alone; we no longer have the incentive of greater milk or meat yield and of healthy, well-conditioned stock. It must be made to pay these men, the dairyman, farmer, cattleman, and especially the butcher, if they are to take more pains in skinning and curing. It will be the duty of the committee on this subject to work out with the Department representatives practicable ways to improve skinning and curing which can be demonstrated by the Department and kept before the public constantly through our Information Service, the agricultural and trade press.

The Department feels that in this program we cannot ignore the difficult problem of classification and marketing of hides. It will be the duty of the committee to which this subject is assigned to work out a simple, practicable scheme for classifying and marketing, one that is fair and can and will be applied fairly. It is right here, the Department feels, that the success of our joint efforts are going to hinge, because it is here that whether or not the smaller producers, farmers, cattlemen, dairymen, and butchers are going to get anything for their greater care and labor, will be shown. We must have a plan of classification and marketing

that will be acceptable to all interests, one that the Department can get behind and develop with the weight of its interest and experience with other commodities.

Finally, the committee to deal with statistics should work out a scheme to improve the statistics on hides and skins. It is believed that this will be neither difficult nor expeensive. We know with substantial accuracy through the Bureau of Foreign and Domestic Commerce the value of hides and skins imported into this country, and through the Bureau of Animal Industry the number originating in packing houses having Federal meat inspection, but we do not have any accurate knowledge as to the quantity of country hides. Estimates by competent persons differ several millions of hides. It is only a guess at best, and it seems well worth while in connection with the other work to devise some procedure whereby the number of these hides coming to market annually can be known.

As we see it, this work as a whole must be continued for a number of years at least. We should not expect that it can be discontinued after a few years, as desirable as that would be. It will cost money. Where this money is to come from must be considered; whether from the industries or Congressional appropriation. If the latter, the proposed expenditures must meet the approval of the President through the Budget. The program must promise useful results and be reasonable in cost; be modest in the beginning, trusting to the value of the results to wattant increased expenditures if they are needed.

Now, this briefly is the outline of what we have in mind. I have not attempted to go into detail or even to enumerate all the principal items. I think we can safely leave the further elaboration of the program to the several committees; in fact, I am deliberately leaving this to the committees, feeling sure that they can do a better job than we can here. Before these committees are designated by Secretary Jardine, however, I would like to know if the program in general has your cordial approval; it cannot succeed without it.

Dr. Veitch (continuing): Perhaps I may digress a moment and say that Mr. Moffat's remarks with reference to the working out of the technical problems would seem to indicate that we might ignore the economic side in this work. Perhaps I have misunderstood him; but it seems to me it is the very basis of the thing. Improvement in hides has got to pay, or it will not be done.

This, briefly, is the outline of what we have in mind, which is to be worked out in detail by the various committees. The Department doesn't feel it is capable of doing that of itself; it must be done in cooperation with you men who know the various phases of the problem. I have not attempted to

go into details; I am deliberately leaving these to the committees, and feel that they can do this better than we can. Therefore, before these committees are named, we will want to have you advise us as to who are the men who should be placed upon these several committees. The number on each committee is not definitely settled; four, five, or six, whatever this conference thinks will be a desirable number.

Mr. Moffat: May I say a word? So far as any neglect of the economic side, I would view that with great regret. The economic side should be considered as well as the physical side. But you have made my case. We tanners say that there is an economic waste. Your testimony apparently would make the case. I have heard no dissenting voice. It is a truism that if you can eliminate an economic waste, the producer will be rewarded. No man can say to the friends of the livestock associations and the farmer representatives that they will get "so-and-so much more for your hides and skins." But, if you demonstrate to them that there is an economic waste taking place, it is fairly certain that they will be the gainers, and I would lay that down as a condition precedent to any campaign such as this; as to stating to any butcher or packer, etc., that he will be getting 2 cents or 5 cents more for his hides, that can't be done.

Now, I think Dr. Veitch's pla is sound and should be very carefully considered, and I can say that all of the men whom I represent will give hearty cooperation, and I hope that the representatives of the livestock associations and the farmers will be able to say as much. I would state a little more carefully than Dr. Veitch, that the packing interests and the producers are not the ones toward which we would look, but that the direct attack should be against the small producer of hides and skins, and the country producer; that should be the first way we would enlist our educational efforts.

I should like to say that in all of the efforts of the tanning industry, and it is a long task, the packers have met our efforts with a great degree of courtesy and interest; they realize that since the beginning of the meat-packing industry in this country, there has been no direct attention paid to the technical problems, to the care of the hides and skins, until within the past three years. Now, we are getting, in this country, to a point where we are not so uncivilized as we were 50 years ago, and it is perfectly proper that the leather interests should go to your great Department and say, "This situation is fining down, and we want definite consideration; I represent an industry which produces $500,000,000 worth of leather a year, and I come to your Department with no apology." I do not worry about where the money for that comes from; it must come from the pockets of the people of the United States. as does all of your other money.

Mr. Livingston: Mr. Moffat has spoken on the points of interest that I intended to bring out. The previous speakers have touched on the subject of how to make it worth while for the producer. I do not know that the tanners are particularly interested in going down to South America and getting frigorifico hides, but rather that they should bring home to the butchers and others the fact that the present-day leathers require a different class of material than they did many years ago. I appreciate the fact that today, the farmer not only has to make a good wearing leather, but to make it attractive, and in order to do that, you have to have the best grade of leather. Now, we cannot go out and say to the farmer or the butcher, "If you make your hides good, we will give you better prices." That cannot come about right away; but unless the producers get down to business and supply the tanner what he needs, the country production will find itself out of a market for its hides; or else, there will be a great spread between prime and ordinary goods, and I think that the department and those interested have got to

bring to the producer the fact that he has to make different grades of goods than he has before, simply because the consumers demand a different type of leather. Years ago, they wanted wear and durability, and today they want style and appearance, and you have to have good material to work with. If I, for instance, cannot sell that to Mr. Barnet, or somebody else, to whom can I sell it? If I cannot sell, then I cannot buy; then there is no market for it. They are making different types and styles today, and if we have badly cured skins, we cannot sell them.

Dr. Browne: Perhaps this discussion can be discontinued until after luncheon.

Mr. T. S. McCraken: Senator Kendrick, from Wyoming, has asked me to express his deep regret at not being with you today. As a stockman and as Senator from a stock-raising State, he would like very much to be with you. I assure you that he is greatly interested.

Mr. Moffat: Mr. Chairman, will you ask that the tanners here present meet and lunch with me? We may in that way, find time to discuss these questions.

Dr. Browne: I think it would be a good idea for the men to get together and discuss the problems. The tanners present have heard Mr. Moffat's invitation.

We will now adjourn. We should convene here at 2:00 p.m.

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First session adjourned - 1:00 p.m.

AFTERNOON SESSION
April 19, 1926

Chairman - Dr. Browne:

Meeting called to order at 2:15 p.m.

Dr. Browne: Before we proceed with the regular business on the program, Mr. A. M. Loomis, representing the American Dairy Federation, will speak to you.

Mr. Loomis: I feel as though I am asking a good deal, to come in here and interrupt the conference; but I am in this situation: I have the representatives of 14 National industries here. We met at 10 o'clock this morning, and I presented the situation from this conference, and asked some of their cattlemen to come over here and sit with you. But all that we picked out, wanted to stay with us, and the result was that they suggested that I come here myself. So, here I am. The other conference has broken up into sections. They authorized me to say to you that there is great interest in the dairy industry as a whole, particularly with the cattle owners, in this proposition, and they asked me to bring over their best greetings and wishes and to say that when you make your plans and have the work of the follow-up in hand, that we will put the whole force of our organization at your disposal; and they told me to delegate myself to this piece of work as far as I am able to do it.

As Dr. Browne and the men in the Department know, I am here in Washington all of the time, and I will do anything I can. I think this proposition is not well understood by the dairymen, and that there is a chance for a good deal of educational work. We have been fairly prosperous in the dairy business during this year, and the result is, I feel, that the matter of the by-products of the dairy industry has not been given the

attention that it should be given, as competition is going to increase. We are tremendously interested not only in this conference, and in the work of conserving hides, but also in the better-meat proposition which is going on here, and I think we will put our best efforts at the disposal of both of these interests.

Mr. Moffat: Do you not think it might be possible for us to send to the Dairymen's League word that we are considering the phase that would interest them, namely, elimination of the grub, and in-as-much as they have asked Dr. Loomis to come here, that we should express to them our great appreciation of their interest, and in view of the situation, tell them that we are considering something that appeals to every dairyman, and we shall ask from the dairymen particularly their most active cooperation on that problem?

Mr. Loomis: It occurs to me, and this is off-hand, that we will be here in this room in session Wednesday forenoon, and if you are still here, you can have 10 or 15 minutes on that program. We are to have the Secretary of Agriculture come here at 11 o'clock to speak to us.

Dr. Lewis: It seems to me that it would be very well if Mr. Bishopp could appear then and present particularly the subject of grubs.

Dr. Browne: That is a fine suggestion. We thank you, Mr. Loomis, and we will follow your suggestion.

The main subject for the program this morning, I believe, was to be brought out a little later, and we are ready now to resume the discussion of the Department's plan, which Dr. Veitch presented this morning. I might ask Dr. Veitch to summarize that plan.

Dr. Veitch: I want to repeat, as I said this morning, that this is no worked-out plan. We have no hard-and-fast detailed plans. We want to

discuss all of these problems that promise results. The detailed plan as to how we shall go about solving these problems, and as to which of them we shall undertake first, are things that have got to be worked out by the several committees that will be appointed, and we will be guided by the best thought and suggestions that the various industries represented here will present. As the Secretary said this morning, "The meeting is yours." Make your plans so that we can become enthusiastic about them and feel that we have something that everybody is behind. All we can hope to get out of this conference is your enthusiastic support of the well-worked-out plans that will be prepared by the men that you designate to do that.

Dr. Webb: Was there not something said about an advisory committee?

Dr. Veitch: Yes; there will be an advisory committee to work in cooperation with the Department, more from a standpoint of general support, keeping all of the interest behind a worked out program of the technical committees. That is their work, primarily to back up the several committees.

Dr. Browne: I think you all understand now, the outline, and now we are ready to discuss any particular phases of that. Mr. Moffat, do you think of any other possible point?

Mr. Moffat: Mr. Chairman; you have here the question, "Shall cooperative effort to improve hides and skins be made." I should like to have that discussed by this conference so that a decision may be arrived at. If it is not in the affirmative, how shall that be put into effect? I should call for the question; you have heard the case. What action do you take?

Dr. Browne: What is the sentiment of the conference, in favor of cooperative effort, or not? Is there any discussion? If not, those in favor of such cooperative effort, will please signify by saying "Aye."

(Vote unanimously in favor of cooperative effort)

Mr. Moffat: Now may I go on? In taking up this matter with the various representatives of the industry, our feeling is entirely one of gratitude and appreciation, of the way in which your two Departments have thrown all of their forces on the problem. Our other feeling is that you shall not attempt too much. I find that in developing cooperation, that if you develop too many points of contact, you are reaching no good final point. Therefore, I would suggest that your method of discussing this be confined to, for instance, the broad subject - grubs, diseases and physical defects in our raw materials, the possibilities of improved mechanisms, and the improvement of the statistical situation. And I further limit that to this - that in discussing that, we do not attempt to go farther than the enormous volume of hides and skins that are taken off by other agencies than the large packing interests. I think I have fairly well expressed the opinion of the tanners. If not, I should like to ask Mr. Barnet or Mr. Byron to make any suggestions they have in mind.

Dr. Browne: You have heard the remarks of Mr. Mofft. Do any of the other representatives desire to add to that?

Mr. Barnet: I concur with what Mr. Moffat says, and in that conjunction, would add that there is a mechanical device being used now in France, as Mr. Frey said this morning, to flay the hide, an electrical device. There is no use going into the mechanism of it, but it has proven very satisfactory, and the hides and skins taken off in the Southern part of France with this device, have been as near to perfect as they could possibly be. They are paying premiums for hides and skins taken off by this machine, and I believe that if it were not for the cost of installation, the machine would have been much more adopted generally throughout Europe; but on account of the economic conditions over there during the past two

years, they have not installed this machine. One machine did come over here and was used in New York with a great deal of success about a year and a half ago. I believe that we might devote our entire effort to better take-off by the packers. I believe that if this machine were perfected in this country, and used not only by the packers and the small packers but everywhere where skins are taken off in quantity, and possibly in this country where they usually perfect a machine at low cost, a machine of this kind might be used on the farms and by the small butchers for all the hides and skins taken off. This machine is no longer an experiment. It is a development that has gone over possibly 10 to 12 years. I do not know if the patent is a French one or not, but I think that would be immaterial as compared with the large saving effected. I would concur with Mr. Moffat in not wanting to cover too much ground, but on hides devote ourselves to grubs, ticks and brands, and take-off by the packers, for the moment, and on calf skins, curing, salting and take-off, paying a bonus for well flayed calf skins. I think then, that we would probably cover as much as we should in the calf end of it.

There is one other thing that we might take up, and that is, the use of instruments in cleaning the carcass. They have been using a curry comb for the past few years, and the curry comb was a very ordinary one, a 25-cent horse-curry-comb; and as soon as the metal of the curry comb corroded or the teeth became distorted, it tore the grain of the calf skins. Now, they have devised a heavier curry comb of alloy metal, that although heavier to handle, does not do near the damage as compared with the other curry comb; but, regardless of what kind of instruments they use, the flayer of a calf skin should be instructed to use care in cleaning the carcass, that is, usually with the skin left on the carcass.

Then, there is a question that has come up regarding the quality of salt that is used in curing. There is very little salt used in the country which contains iron. That is an exploded theory, that it is the iron in the salt that causes salt rust or stain. It is the blood that contains the iron and which is left in the skin, that causes the salt stain and rust. There is another question, of putrefaction; but it is not the hide that causes the salt stain, nor the iron in the salt, but it is the blood that is left in the skin before it is cured. Formerly, after a calf or hide was slaughtered, blood would flow in the natural way. Today, immediately after the alsughter, the carcass is chilled with the skin on, or if the skin is flayed, the skin is chilled without letting the blood run from the skin, and there is a coagulation of blood, and that is what is causing the greater part of the salt stain we are having now. The object of chilling the carcass is to make the meat whiter, which naturally brings more money for the packer or butcher. There is very little so-called milk-fed veal in this country. Most of our calves are fed on grass, and very little on milk and grain. In order to make the meat whiter, they have found that chilling has the desired effect, and of course, that can not be changed because meat is the main product and the calf skin and hide is the by-product; but some method can be found to take the blood from the skin before it is cured, and that is what Dr. McLaughlin in Cincinnatio has been working on, to cure by bringing and washing first, before the skin goes into the regular curing pack.

Dr. Browne: Is this flaying device of which you speak an expensive piece of apparatus?

Mr. Barnet: No, it is not. In this country, it would not cost more, possibly, than $45 or $50 to make it. It is run by electricity, and

is very much the same idea as the safety razor. It has been very well worked out. In France, they have a certain section where they use this extensively, and those skins bring at least 12 or 15 per cent more than the others, and are eagerly sought after each month.

Dr. Veitch: Is this device still here in this country?

Mr. Barnet: No; the invention came to this country and was on exhibition in a packing house in New York at a time when I was not present. I was out of the country, and when I came back, the test had been made, and I could find nothing said about it. You can easily get one of the machines, and that is going to solve, to my thought, the take-off, to good advantage.

Dr. Lewis: I might report that our committee on hides, of the American Meat Packers Association, became interested in that, and we found that Armour and Company, two or three years ago, had made a careful study of it, and they found that ittook too much time, that it was so slow that it was not of commercial value. I do not think that verdict is final, however.

Mr. Barnet: I remember now, that they found it to be very slow at that time, because the blood got into the machine, and it got stuck every little while; but there is no question but that it could be overcome, because it was simply the blood and dirt that got into the plates. However, there have been many other machines developed in this country.

Dr. Browne: Mr. Byron, have you anything to offer?

Mr. Byron: This whole plan is of great interest to us, not only the take-off, but the other phases as well. I agree with Mr. Moffat that perhaps it might be better not to attempt too much in the beginning, but I am very glad to have this opportunity of getting together, because I think it will result in bringing about a better understanding. I would like to offer the assistance of our company's records to the different men in your Department,

when the time comes to study individual records. I think that with enough help, individual records can accomplish a great deal. It is of very vital importance to us, and we are willing to work as much as we can. I think we should attack the grub problem seriously.

Mr. Bishopp: It seems to me that we have not had much discussion from representatives of the cattle industry of this country, with the exception of the brief remarks of Senator Hendrick's secretary, Mr. McCraken. I understood that Mr. Dayton Moses was to be with us from the Texas cattlemen. I think that we should have an expression from him and get more of the feeling on the various problems.

Dr. Browne: It there are any representatives of this group here present, we should be glad to hear from them.

Dr. Veitch: Mr. Moses is not here now; he was here this morning. But I endorse the remark just made. I should like to hear from the range people. They have their own problems and can give us a better line on them.

Dr. Browne: Is there anyone here who wishes to speak on this point? Do any representatives or the manufacturers desire to add anything to this?

Mr. Smith: I might say that the President of the National Boot and Shoe Manufacturers' Association, which I represent, was unable to come here today; but I feel sure that you can depend upon us, and that you will have our hearty cooperation.

Dr. Browne: We are very glad indeed to receive that. Is there any other question to decide upon? I think we should have a general advisory committee and certain sub-committees. The most urgent questionsare those relating to grubs, diseases and other physical defects. Am I right in that?

The other question with the committee was as to another sub-committee relating to skinning and curing, and another to records and statistics. Are there any others?

Mr. Moffat: I would not overlook the economic side. I believe the other committees can strengthen the movement, but I would suggest the two sides, physical and economic.

Dr. Veitch: I do not think that Mr. Moffat is suggesting that we discontinue the general movement; but that we emphasize the two features.

Dr. Browne: Of these two phases, the one we failed to take up this morning is that on statistics, and Dr. Lowe will speak on that.

Dr. Lowe: I wish to explain that this is entirely a personal report submitted by me to the other members of the sub-committee, two or three of whom are present; they have read this report, and as there was no comment, I do not know whether they have any suggestions, but I will read it for what it is worth, and I hope that the members of the sub-committee and any others who may wish to comment, will do so.

Suggestions on Statistics of Country and Small Butcher Kill

It is apparent that there is a need for accurate statistical information regarding country and small butcher kills, as well as on hides salvaged from animals that die. It is understood that the method of deducting the packer kill from all hides consumed has given very questionable figures in this connection.

The problem is how to obtain reliable data on this subject, Some of the possible sources of securing these statistics are: The Bureau of the Census, the Crop and Livestock Reporters of the U. S. Department of Agriculture and the county agricultural agents. It is difficult to determine which offers the greatest hope. It is believed that if an approximation of the true situation could be obtained through one or more of the mentioned agencies, it would be of considerable help as a check against the data that is obtainable through the various hide and leather trade channels, if nothing more.

Bureau of the Census - This Bureau informs me that the following 4 questions were included in the 1924 agricultural census form:

(1) Calves slaughtered for food on farms
(2) Other cattle " " " " "
(3) Swine " " " " "
(4) Sheep " " " " "

The answers to these questions will be compiled and the summaries available about August or September.

No effort was made to secure information regarding hides salvaged from dead animals and of course nothing was obtained on small butcher kill.

Crop and Livestock Estimates - They advise me that they would be willing to ask their corps of reporters to gather information on this subject by sending a questionnaire to them, but feel that they would be considerably handicapped in getting the small butcher kill and salvage information. In those States (mostly in the West) where hides are given State inspection in connection with the identification of brands, some data of value might be secured. It is felt that farm slaughter is a rather steady item, but that small butcher kill would show wide variations from year to year.

This Division was inclined to believe that certain trade agencies were in better position to give authentic figures than would be obtainable from the livestock producers.

County Agricultural Agents - The services of some 2200 county agents located in as many agricultural counties of the country are available in an effort to obtain information on this question, if it is thought desirable to use them. Quite a number of counties are without agents and it is questioned whether it is not too much to expect dependable reports from this group when the territory that each serves is taken into consideration.

Conclusions - If a questionnaire survey is undertaken, it is my opinion that the crop and livestock reporter group offers a better medium through which to operate than does the county agent group. Each of the reporters has less territory to cover, and are perhaps better trained in gathering statistical information than are the agents.

There is no lack of interest among any of the groups consulted in wishing to assist in the solution of this problem, and I am sure that the cooperation of any or all of them can be counted on, if their help is desired.

As stated in the forepart of this paper, I feel that there must be considerable discounting of all information which may come from any of these sources, and that if it is gathered, its value will be largely in checking similar figures from channels of commerce.

Dr. Browne: Is there any discussion of this paper?

Mr. Katzenberg: I have one thought - that the country kill might be covered accurately if you could get hide dealers to report monthly the hides shipped directly to tanners from uninspected plants. It seems to me that if you would get the number of cattle killed, and I think all dealers know the quantity of hides that they get from inspected plants, that you would get a pretty accurate report.

Dr. Browne: I think that suggestion is a very good one. Are there any others?

Mr. Moffat: Mr. Chairman, could not the Bureau of the Census get that information and give it to us? That is, the movement of the uninspected hides from the dealers' hands to the tanners'?

Dr. Browne: Do you have any information on that, Dr. Veitch?

Dr. Veitch: I have no direct information; I think the Census could handle that, but of course, we cannot speak for the Census.

Mr. Moffat: That may be an excellent solution. What do you think of that, Mr. Byron? You come from a town down East.

Mr. Byron: It seems the best way to get at that information.

Dr. Veitch: Could the tanners join in this and report too?

Mr. Byron: No sir; it would be very difficult.

Mr. Moffat: You cannot get information on the sources of raw material from the tanner; he doesn't know that.

Dr. Veitch: Of course, the Department of Agriculture has a tremendous lot of machinery which, if it had nothing else to do, could do this excellently. But the county agents are exceedingly busy each day of the year. If we could use that machinery, we could get this information promptly and accurately; but I am fearful that we will not be able to use them. Dr. Lowe made some splendid suggestions/

Dr. Browne: Mr. Page informed me that Secretary Hoover would be here at about 3:20/ So, if there is no further discussion of the Department's plan at this time, we will take up the designation of committees.

Dr. Veitch: When we prepared this program, Gentlemen, we thought it might be possible through the representatives of the various organizations here today to designate from the representation present the members of these various committees that it is proposed to appoint. It does not seem practicable to do that now, certainly not for all the organizations. Unquestionably there are some organizations here that could immediately designate the members of their organizations they would like to serve on the committees. It would be a desirable thing to have done that today. However, I think that now we will have to ask the various organizations and members here from unorganized groups to designate suitable men for these various committees. Are any of you in a position to do that today? I would be very glad to take their names for the Secretary's consideration, and those who can not do it today, if they will designate those members of the committees in writing at some early date, it will be satisfactory. Those organizations that are not represented here today, I shall write to in behalf of the committee handling this matter, asking them to designate men who can and will take a real, active interest in this matter.

It is probably unnecessary to emphasize to a group of men like this the fact that these representatives are going to have to do some work occasionally to help this thing along. It has got to be constructive, it has got to be enthusiastic, it has got to be open-minded and cooperative, and I do not doubt for a moment that we will get all this.

Mr. Helburn: What bodies of the Government, may Iask, will be represented on these statistical committees? May I suggest that not only the Census Bureau, but also the Bureau of Foreign and Domestic Commerce be represented?

Dr. Veitch: Do you mean the Government Departments? The Department of Agriculture will be represented on the agricultural and scientific phases and the Department of Commerce on the statistical and marketing phases.

Mr. Helburn: Not only from the Census Bureau, but also from the Bureau of Foreign and Domestic Commerce.

Dr. Browne: We will make note of that. Are there any other points to make?

Mr. Byron: Is it your idea that each one of the committees should have an individual from each organization on it?

Dr. Veitch: I do not believe that that is going to be necessary. We are uncertain, at least I am. If we have too large a committee, we probably will have a lot of delay and a great many absentees, and again, if we have to small a committee, it would not represent enough interests and we would overlook something. There are half a dozen very active cattle organizations. I do not think it is necessary for all of these to be represented on everyone of these committees, just so we provide a man to take care of each big interest. There should be someone to represent the agricultural interest, the cattle interest, the dairy interest, for instance; someone for the hide interest, the butcher interest and the tanners. I do not think the shoe manufacturers would need to have a representative on every committee, nor the National Grange. It will have to be worked out in cooperation with the various bureaus of the Department of Agriculture and of the

Department of Commerce and also with the industries themselves.

Mr. Moffat: Are you ready to state the number and names of the committees now?

Dr. Veitch: First, the Advisory Committee, a technical committee on the question of grubs, diseases, brands, and other physical defects; a committee on skinning and curing; one on classification and marketing, and a fourth technical committee on statistics.

Mr. Moffat: And from the various industries and interests, representatives to consider the four major lines of improvement - pests and physical defects, skinning and curing, the economic side, and statistics?

Dr. Veitch: Of course, running through all of this is something that we happen to have lost sight of, so far, and that is that in all of the work, we will try to keep before the public the things as they come up, because we all want to know about it and to get as much good from it as we can.

Mr. Reynolds: Is it your idea to say that the information on the grub and diseases, etc., be given to the farmers and people directly interested in that, and that the skinning and curing, etc., be given to the packers, and other things to those likewise interested?

Dr. Veitch: Absolutely; I do not think we should leave those men off, because we have to have their point of view. In other words, we have got to have committees so constituted that we have all of the points of view there in the committee; otherwise, we might get on the wrong track. Then also, the committee must be of some size; I do not believe we will have any two-or-three-member committees. On the advisory committee, as I see it, there will be 8 or 9 members, with 5 to 7 on the other committees. We will have

to have the point of view of the different localities, for we have to consider branding, grubs, diseases, ticks, etc. The tick is in the South; branding in the West, and grubs are everywhere. So you might say that there will be three representatives from the cattle interests on the one committee. Also, we should have a hide man, a tanner, and a shoe manufacturer, etc.

Mr. Byron: The work of the Statistical Committee and the Classification and Marketing are so close together, I was wondering if it would be any easier to combine those and have two, or three, instead of four. It occurred to me that the statistics would be included with the marketing. You might save a little by combining those.

Dr. Veitch: I would like to have that discussed. The only reason for separating those and making two separate committees is that we felt that the question of classification was probably so largely a controversial subject that it might have on hand more than it could handle. There should not be an unnecessary number of committees. If it is the sense of this conference that the statistical work could go in with the other committees, there would be no objection on the part of the Department, if three committees will do as well as four.

Dr. Browne: What is the sense of the conference about combining the statistical with the marketing committee?

Dr. Veitch: Mr. Brand has had a good deal of experience in that.

Mr. Brand: You have heard that the Bureau of the Census and the Department of Commerce could be represented; I believe that it could; but after all, it is more a job for men of the statistical end. So, I believe it would be well to separate them.

Dr. Browne: Were they are other remarks? We might put the matter to vote.

Dr. Veitch; Mr. Chairman, I think it is the first time that a

group of this kind has ever gotten together. That is why, when you consider the very widely separated industrial and agricultural interests that we have here, we have reason to feel optimistic about the program we are making. I believe we can safely leave the details to be worked out by the several committees.

Dr. Browne: Very well; we will leave it to the committees.

(Greeting Secretary Hoover, who arrived at that moment) We are very glad to welcome you, Mr. Secretaty. We are just winding up the program of this afternoon's conference, which has been, like that during the morning, held between the two great Federal agencies, the Department of Commerce and the Department of Agriculture. This morning, we had the pleasure of hearing an address from Secretary Jardine; and now, we are hoping to have the pleasure of listening to the Secretary of Commerce.

Secretary Hoover: Mr. Chairman; Gentlemen: I regret that I am unable to discuss the subject before you from a technical point of view. I have no doubt you have ample ability to encompass that. The Department of Commerce has been greatly interested in the problem which you have before you, and I believe it is at the suggestion of the officials of the Department that this conference has been called. Our interest is widely in the whole problem of eliminating waste in American industry and commerce. I am not referring to the waste which arises in individual concerns and by individual action, but the wastes which are of a collective character in industry and can only be cured by cooperation between different trades.

We maintain in the United States the highest standard of living of any country, and we are surrounded by a world of lower standards. We can only maintain this unique situation from destruction through the competition of foreign countries if we can sustain a higher industrial efficiency than anyone else, and one of the first requisites is the elimination of waste

in our production and distribution methods.

I notice by your program that you have considered the subject in the aspect of the damage and waste in hides due to the diseases of the animal itself, those due to branding, those due to bad taking of the hides. And I notice that you have had something to say on better classification for marketing and on wastes due to inadequate statistical services, and many other subjects. It all demonstrates that you realize that there are great wastes here with can only be cured by collective action, and if these wastes can be cured it will bring more return to the farmer and more stable business to the manufacturer, and a reduced cost to the consumer. The elimination of waste is all assets - it has no liabilities.

You are here engaged in the same action that many hundreds of our other industries are engaged upon today. Over a thousand conferences of this character have been held in the Department of Commerce in the last five years. Each one of them is perhaps a small sector of American waste, but in aggregate, they will make the difference between a high standard of living for our people and a serious diminishing of it, unless we can succeed.

(Applause)

Dr. Browne: Now, gentlemen; is there any other business you wish to discuss at this time? If not, -

Mr. Moffat: Have the real agricultural interests ever voiced an opinion as to whether they will cooperate? It is too bad for the meeting not to have any men here of that kind. The cattle raisers would be the vital factor in this.

Dr. Veitch: Mr. Loomis, representing the American Dairy Federation, was here, and Mr. Little can speak for the Southern Cattlemen's Association. There are other representatives here also, I think.

Mr. Brand: Mr. Loomis also is connected with the National Grange.

Mr. Little: In regard to the Southern Cattlemen's Association, I was asked to come over here to represent them. We do not have anything to contend with at home but the grub pest. We have Short-horns to keep free, and the grub is the biggest pest that we have, and I would like to know how to get rid of it. I think you can be assured that the Southern Cattlemen's Association will cooperate.

Mr. Moffat: What groups of the outside associations were asked to this meeting?

Dr. Veitch: All National organizations, such as the Grange, the Farmers' Union, the Southern Cattlemen's Association, the American Dairy Federation, the National Livestock Association, the Texas and Southwestern Cattle Raisers' Association, representing the southwestern section, the Eastern Beef Producers' Association, represented by Mr. Reynolds, etc.,etc. We have tried to gather those National organizations, and also the regional farm organizations that we felt would satisfactorily deal with the subject. They have all been here and have expressed their interest in the work. I think we will get their cooperation, provided we make it worth their while.

Mr. Moffat: Did you get indication that they would cooperate?

Dr. Veitch: I think there is no question of that.

Mr. Ogg: I represent Mr. Gray of the Washington office of the American Farm Bureau Federation. Mr. Gray is unable to be here personally, and is very sorry; but he asked me to represent him. I feel confident, personally, that the American Farm Bureau would be only too glad to cooperate in eliminating the waste in this industry; but I am not authorized to say this. I do know, however, that it is the intention of the Farm Bureau.

Dr. Lewis: I think it would be very helpful if those here might receive a list of those present, together with their representatives.

Dr. Browne: Surely, that will be all right. - Are there any other remarks? If not, I wish to thank all of the members for having attended the conference. I think we can profit by the suggestions made by Secretary Hoover. I believe that if we practise that, something good will work out. This meeting is only a preliminary one, and we hope that when the committees have formulated their work, we may be able to benefit at the other meetings.

The conference will now adjourn.

Time - 3:30 p.m.

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Conference reported by Mrs. Bessie W. Gahn (through the Secretary's Office)
assisted by Mrs. Helen Koch, Bur. of Chemistry.

of hides and skins
of agriculture, ...